



TRANSPORT



LETTERING



FOOD



BASIC FORMS



MASKING

# THE ENCYCLOPEDIA OF AIRBRUSH TECHNIQUES

*A complete A-Z directory  
of airbrushing techniques,  
and how to use them*

MICHAEL E. LEEK



ADVERTISING



ARCHITECTURE



HALOING



CORRECTION  
TECHNIQUES



HUMAN FORM



BLENDING



TECHNICAL

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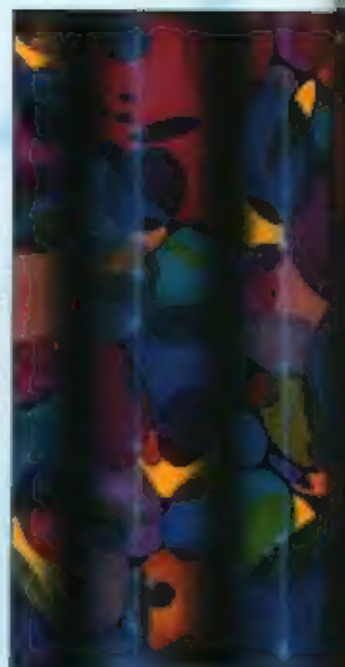




# INTRODUCTION

IT IS NOW SO LONG AGO that books on airbrushing were practically unobtainable simply because publishers did not think there was an adequate demand. However, the continued and increasing need for highly finished, *quality* illustrations in every area of graphic design has brought an awareness of airbrushing to a wider audience, even though the techniques themselves may still be elusive to many. Using step-by-step demonstrations and the work of professional illustrators, this book aims to cover the techniques employed. As skills improve and develop so will each illustrator introduce new approaches to his or her work, which others may find unacceptable or inappropriate, but to the illustrator using them they may become an indispensable technique in all future work. Because of this, and because there are no rules which must be adhered to, no single book on airbrushing techniques can ever be definitive.

The majority of the readers of this book, I hope, will start by studying the professional examples reproduced



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here, rather than look at the step-by-step demonstrations first. While it is undeniable that the demonstrations have played a part in the choice of techniques used, the finished examples have been selected primarily on the strength of the airbrushing. Regardless of the fact that most of the illustrations reproduced here were for a specific purpose and would therefore be seen in a context, many do stand as illustrations in their own right – such is the standard being achieved today.

My introduction to the airbrush was a by product of lectures on the theory of perspective and shadows. These were both subjects I found fascinating and quickly developed an understanding of them. This

meant I was often ahead of my colleagues and had time on my hands to take exercises to finished artwork stage. My lecturer would encourage me to render these exercises using an airbrush, Winsor Blue or Payne's Gray watercolor, and an old foot-pump with a reservoir – which was designed for use with an airbrush. Not only did this develop my skills in using a new tool, but it also taught me patience – it took a good two or three minutes to pump up the tank to the required pressure and then spray for about 30 seconds before having to start pumping again. All this after slowly and carefully cutting film masks on artwork drawn on paper which was often thinner than the film. (This explains why few of my works have survived – the majority just fell apart like jigsaws.)

*Michael E. Heale*



## PART ONE TECHNIQUES

THE APPLICATION AND USE of the airbrush as a means of rendering natural, man-made, and fantasy or science fiction subjects has increased enormously over the past three decades. Illustrators have found this tool an invaluable aid either for rendering a complete illustration or in limited application to enhance detail, texture, form, or contrast on an illustration which has been primarily hand-painted.

Because of the more widespread use of the airbrush, various techniques have developed to arrive at the quickest and most effective means of achieving desired effects. Many of these techniques are peculiar to the airbrush and are the result of much experimentation by individual illustrators based on both the advantages and limitations of the airbrush. When the airbrush is in constant use, it will soon be apparent that there are techniques other than those described and illustrated here. They will be discovered or identified through a particular need and may well become essential to the illustrator who chances upon them. In this book, the purpose is to describe those techniques which have a wider and more general application in illustrative work, be it creative or technically based.

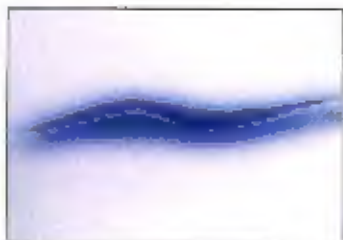
Airbrushing is an acquired skill. It requires practice, patience, careful planning, experiment, and, to produce successful work, an understanding and awareness of color, light, tone, and contrast. In addition an ability to draw is essential.



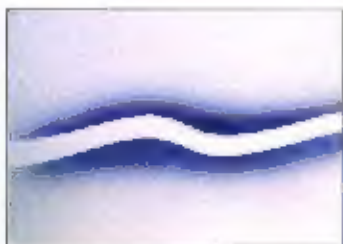
## ACETATE MASKING

Acetate is a completely transparent, plastic material available in sheet or roll form and in a number of different thicknesses. It is useful in airbrushing as a substitute for, and complement to, self-adhesive masking film. Because it lacks adhesive, acetate will allow residual color to encroach underneath, creating a soft-edged effect which can be used to advantage. If this is not wanted, care must be taken to ensure that the mask is held evenly and flatly against the artwork to provide a firm edge to the sprayed area.

The cut or broken edge of a piece of acetate can be used to form a loose mask, or a whole shape can be cut out of the material corresponding to a particular part of the artwork. Because acetate is, like masking film, completely transparent, the mask can be accurately positioned in relation to previously sprayed areas of the image. When acetate is cut, especially for a mask which has sharp, hard-edged corners, it can be prone to splitting. Although a split may appear insignificant on the acetate mask, it is surprising how a small amount of sprayed paint passing through it will be sufficient to show up on the artwork.



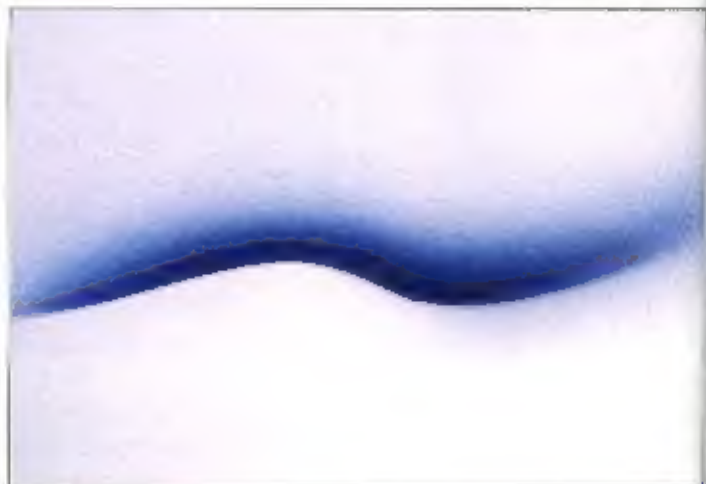
1 Sweeping curves have been cut into a piece of acetate. This has been laid flat on the illustration board and color sprayed along the curved edge.



2 When the acetate is moved away from the sprayed area, it can be seen that the curve is accurately repeated by the spraying. The edge quality is slightly less crisp than would be the case if masking film had been used.



3 The same mask is used, but instead of leaving all of it flat on the artwork, one end has been lifted while spraying.



4 The removal of the mask shows that where the acetate was laid flat, the sprayed color has a firm edge, but where it was lifted, the color fades off and blends into the white of the board. This is a useful technique when both hard and soft edges are required at the same time.

## ANGLED SPRAYING

This term is used to describe the technique of blending colors into each other, without having a hard, or clearly defined edge between them. It is achieved by the distance the airbrush is held away from the artwork and the angle at which the airbrush is in relation to the artwork surface.

This technique may be used in conjunction with the section on GRADATED TOPS.



### Wide-band Blending

**1** It is required to blend two colors together without an edge between the two being shown. After the overall area for the color work has been masked off, the first color is sprayed from top to bottom, holding the airbrush at an angle of  $90^\circ$  to the artwork to create a very soft and gentle gradation.



**2** The second color is now sprayed at the same angle as the first, allowing the gradation to overlap and merge with the first color.



This photograph demonstrates the height and angle of the airbrush in relation to the artwork as the first color gradation is applied.



In applying the second color, the artwork has been turned  $180^\circ$  so that the color can again be sprayed from the top of the board, allowing greater control.





### Narrow-band Blending

1 In this example a narrower band of blended color is demonstrated. At this stage the gradation from color to the white of the board is more sudden.



2 The second color is applied as in stage 1. The finished result shows a clearer definition between the two colors than in the wide-band demonstration.



The first color is being sprayed from the top with the airbrush held at a shallow angle to the surface.



The artwork has been turned 180° for the spraying of the second color, with the airbrush being held at the same angle as in stage 1.



### Using Cardboard in Angled Spraying

In both of the following examples, reference can also be made to CARDBOARD MASKING, LOOSE MASKING and TIGHT FACE MASKING.

1 In this example the cardboard is held slightly away from the artwork, and the airbrush is at an angle of 90° to the surface. This will give a fairly firm, but soft edge on completion.



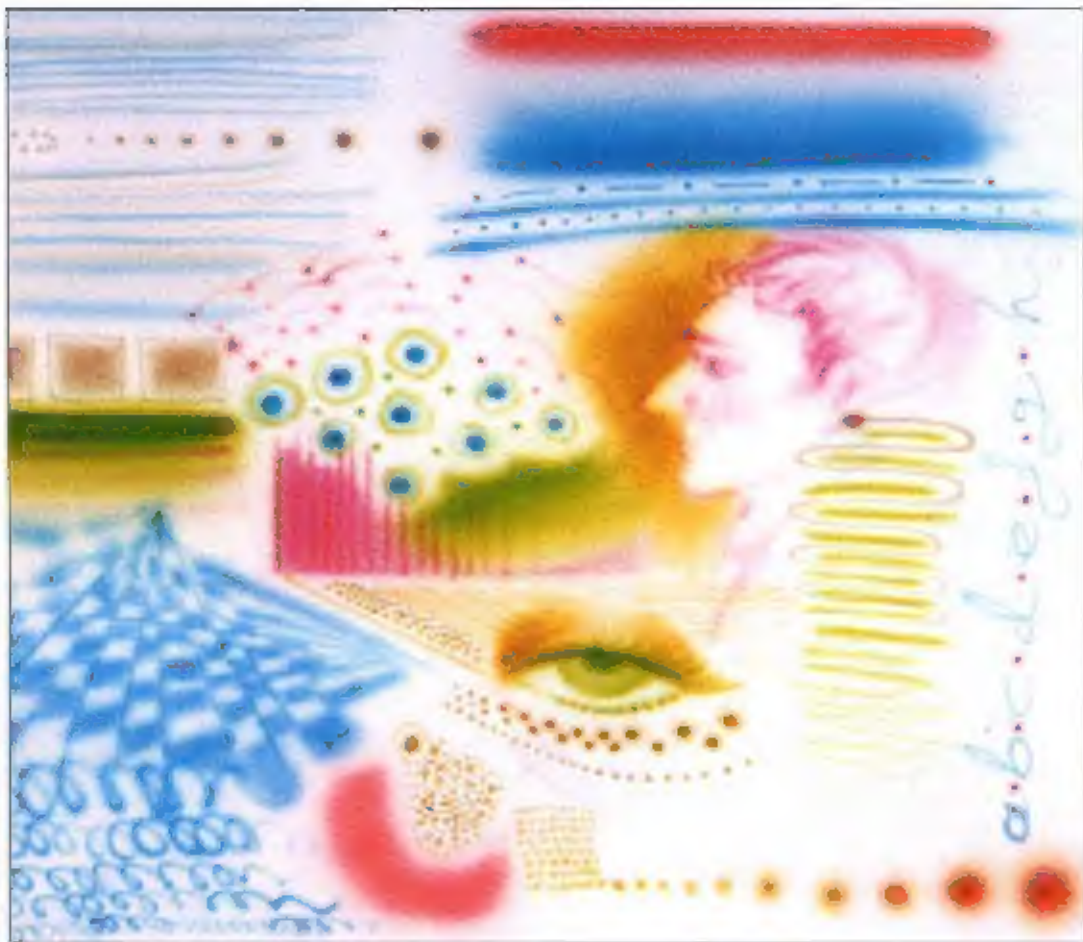
2 In this photograph the cardboard is again used as a mask, but the angle of the airbrush has been brought down toward the nozzles, which will give a much softer edge and gentler color gradation.



## BASIC EXERCISES

The preparation of any type of artwork or painting requires concentrated practice and patience. Time spent here will pay dividends later and prevent unfortunate and unnecessary mistakes from being incorporated into finished artwork. The airbrush is not a difficult tool to use, but as with all others, what it can and cannot do needs to be understood, and there is no better way than practice. Having said that, this section should not be seen in isolation from the other techniques described in this book.

For the beginner, it can be difficult at first to obtain full control of the flow of paint and air through the airbrush—smooth action in starting and stopping the spray, essential for freehand work, and control of an even spread of color, even when masks will be used to define specific shapes. In addition, the height and angle of the airbrush during spraying affect the final result. Basic exercises can take any form which helps to develop the artist's understanding of the tool's capabilities.



This sheet has been covered with different techniques and applications of the airbrush. All have been completed primarily without use of masks of any kind. This type of "doodle-sheet" is excellent practice, which enables the aspiring airbrush illustrator to develop skill and confidence in using the airbrush, and also in understanding the limitations of the tool.

## BASIC FORMS

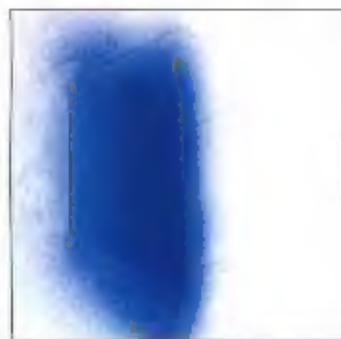
These exercises cover four basic shapes: a cube, cylinder, sphere and cone. They represent the principal geometric shapes which are likely to be encountered in airbrushing an incredible variety of subjects, whether taken individually, in groups or, as is more likely, parts from each in any combination. If specific and detailed areas in a large number of the finished illustrations in this book are closely examined, it will become apparent that many of the abstract shapes which make up the illustrative content are composed of surfaces such as angled planes and curves which can be extracted from these basic shapes.

Not only is practice essential in order to master the skill of handling the airbrush, but it is also useful in understanding the shapes themselves. Furthermore, if you extend the principle of these exercises by varying the colors and surface textures, you will acquire greater understanding of how light affects the shading and contrast from one surface to another, from one side to another, and from one object to another.



### The Cube

**1** The cube is drawn symmetrically with one corner directly facing the viewer. The cube and the surrounding area are covered with a single piece of masking film.



**2** The film covering the left-hand face of the cube is cut and removed for the first stage in the spraying sequence. The left-hand face is sprayed with the greater depth of tone to the right and running parallel to the vertical edge. This is graduated on the left to show a subtle, reflected highlight.



**3** Leaving the left-hand face unmasked, the film masking the right-hand face of the cube is cut and removed. On this plane the depth of tone runs from right to left, but with increasing strength in the highlight toward the leading edge of the cube.



**4** The horizontal surface of the cube is cut and removed, again leaving the two vertical surfaces unmasked. The depth of tone here is lighter overall than on the vertical plane and runs horizontally from the top to the bottom, with the nearest corner to the observer being almost devoid of color.

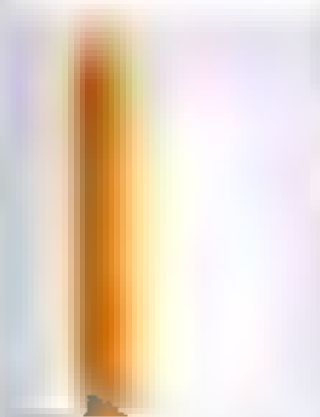


**5** On completion, the remaining film is removed, showing the cube rendered in monochrome with enough depth of contrast to create a three-dimensional image.



### The Cylinder

1 A straightforward drawing of a cylinder standing vertically on one end, is covered with masking film which extends also across the background area, as for the cube.



2 The top of the cylinder is covered with film removed. The spraying begins from the left-hand edge, and the color is allowed to overlap the background masking. It is sometimes advisable to turn the artwork when spraying so that the cylinder is horizontal, with the first edge being sprayed at the top. This makes it easier to control the extent and depth of color besides ensuring the thickness is parallel to the center line of the cylinder.

3 On the right-hand edge, the same technique is applied as in stage 2. The important difference is that the color is applied within the edge of the masked shape to create a highlighted highlight at the extreme edge of the cylinder.

Again the color is graduated quickly as it is brought toward the center of the cylinder. This gives a strong highlight at the vertex, running the complete length of the cylinder and parallel to the edges.

4 Finally, the top of the cylinder is sprayed. After cutting and removing the film from the circular plane, color is sprayed in a clockwise direction, concentrating on the outer or upper edge so that only residual color falls onto the leading edge.

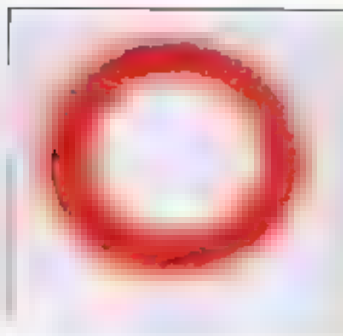


5 The masking film is removed, leaving a half-shaded cylinder as indicated by a light source positioned in front. This technique produces a simple but effective form with a '3D' effect.

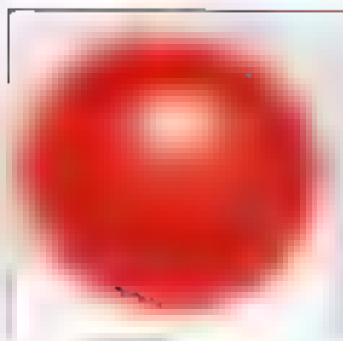


### The Sphere

**1** A white oval is drawn directly upon masking film which has been laid on the illustration board, using a compass and ruler. A piece of masking tape is placed at the center to prevent the compass point from marking the illustration board and to facilitate its removal.



**2** An oval of color is saturated with a brush, encompassing the top and both sides of the mask, but does not extend as far as the lower edge. This gives a reflected highlight on the base of the sphere which will enhance its three-dimensional quality. This initial oval of color must be applied carefully and is best attempted after practicing with the brush on a foreground object. As there are no planes within the overall shape of the sphere, the color only defines its outline, leaving a central area of color to allude to its volume.



**3** In the second stage of applying color is applied, leaving a soft, dark, circular shadow at the top of the sphere. Again, the color slightly softens the upper edge of the oval at the lower edge.



**4** Once the masking film has been removed, the reflected color at the base of the sphere and the principal highlight at center top are evident. An approximation of the sphere is achieved, and the brush strokes and modeling are visible. The color is applied in a way that suggests a light source, and the overall effect is a three-dimensional sphere.



### The Cone

1 The cone is drawn using an ellipse template for the base to give a three-dimensional impression. The artwork is covered with masking film and a "one drop out" mix.

2 In this example the illustrator has chosen the left-hand edge of the cone to be sprayed first. This color is taken over the masked edge and graduated quickly as it comes around towards the center of the cone. When spraying a cone, it is important to remember that the color should be applied from the base to the top and the color sprayed should follow the overall shape of the cone.

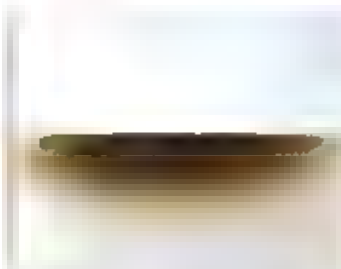
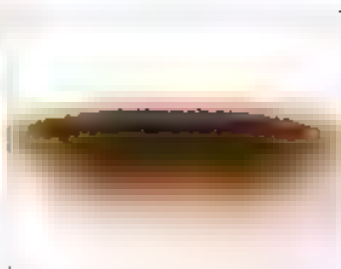
3 The same exercise is carried out at the right-hand side but, as with the cylinder, the color is not concentrated on the masked edge. It is brought in slightly to show a reflected highlight as shown. Again the color is graduated quickly towards the center to create the main highlight.

4 The final stage is the removal of the masking film. The cone is then left to complete three other stages of work with the camera, highlight and shadow being given a "satin" finish. The final effect is shown.

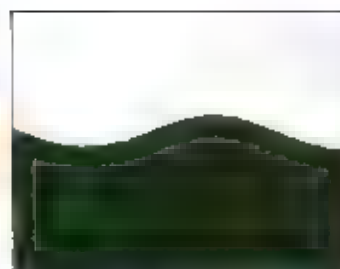
## CARDBOARD MASKING

This technique is on the same level as **SOFT COPY MASKING**. MASKING and TURN PAPER MASKING and reference should also be made to them when following the sequences illustrated here.

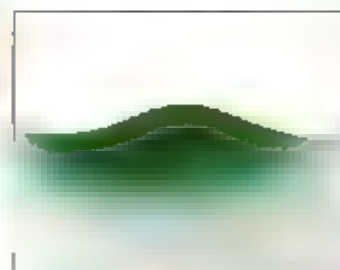
The advantage of cardboard as a masking material is that it is readily available and inexpensive; you can use pieces left over from other studio projects. It can be used to mask particular shapes quite accurately and to create very rough edge qualities. If it is opaque, it is less versatile than acetate or masking film.

**Straight Edge**

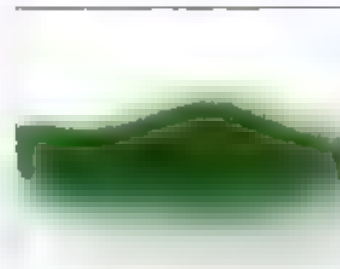
A piece of straight-edged cardboard has been placed in front of the artwork. The area of color resulting from spraying over the cardboard has a relatively straight edge.

**Shaped Edge**

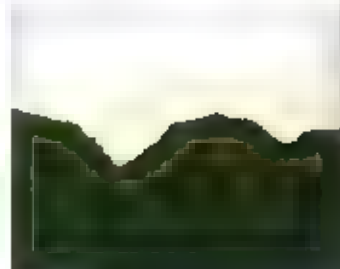
A piece of cardboard has been cut out to a predetermined shape and is being used as a general guide.



2 The effect achieved from spraying over the shaped edge when the mask is placed in front of the artwork.



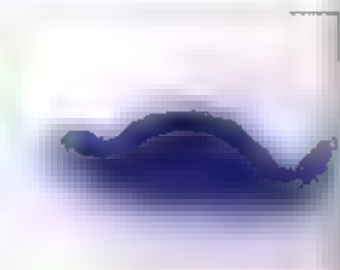
3 When the same shaped mask is used, but held above rather than in front of the artwork, the resulting edge is feathered and a rich blue hue is created by color seeping under the cardboard. To further the color effect, a bold or light blue color is sprayed, the cardboard is then

**Torn Edge**

A piece of cardboard has been torn in half. The rough edge is being used to achieve a general guide, but in the process, an edge is created that is not possible to achieve another accurate way.



2 The effect achieved from spraying over the torn edge when the mask is placed in front of the artwork.



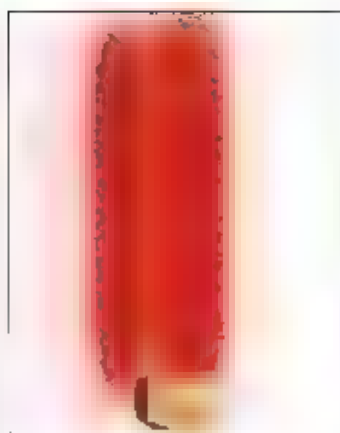
3 The effect achieved when the mask is held above the artwork, showing the feathered edge. The rough edge is being used to achieve a general guide, but in the process, an edge is created that is not possible to achieve another accurate way.



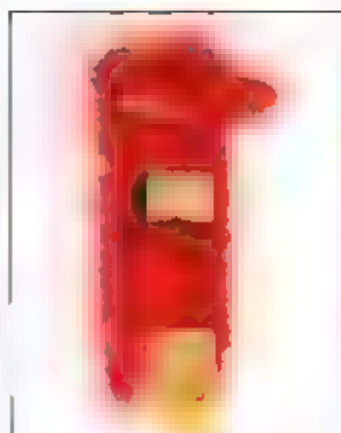
## CAST SHADOWS

Cast shadows have a variety of uses in illustration. Not only do they help in visually making the subject stand out to the front, but they are also an effective means of enhancing the three-dimensional qualities of an illustration. The demonstrations here show a soft-edged shadow created sprayed freehand and a hard-edged shadow created with masking film.

Shadows can be generated from an artificial light source or by natural light from the sun, which have their own set of rules. The techniques of plotting shadow areas are a subject in themselves, and those wishing to experiment further should refer to books dealing specifically with perspective, besides observing what actually happens in reality. The scope of this book does not permit an extensive explanation of the many complexities of the theory and application of perspective in relation to shadows. However, some guidance may be gained by studying the many examples of professional airbrush work reproduced in this book and recognizing where shadows have been used for a specific purpose.

**Soft-edged Shadow**

1. A vertical cylinder is drawn and covered with masking film when the outlines have been set. Masking tape is used to anchor the mask section covering the body of the cylinder to make it easy to remove and replace because this mask will be required again. Alternatively, the



piece of film can be lifted and placed on the backing sheet or another sheet of film is re-used. The cylinder is sprayed as previously described (page 15), but with adjustments made with regard to the position of the highlights, as it is intended to cast a soft shadow to the left and toward the observer.

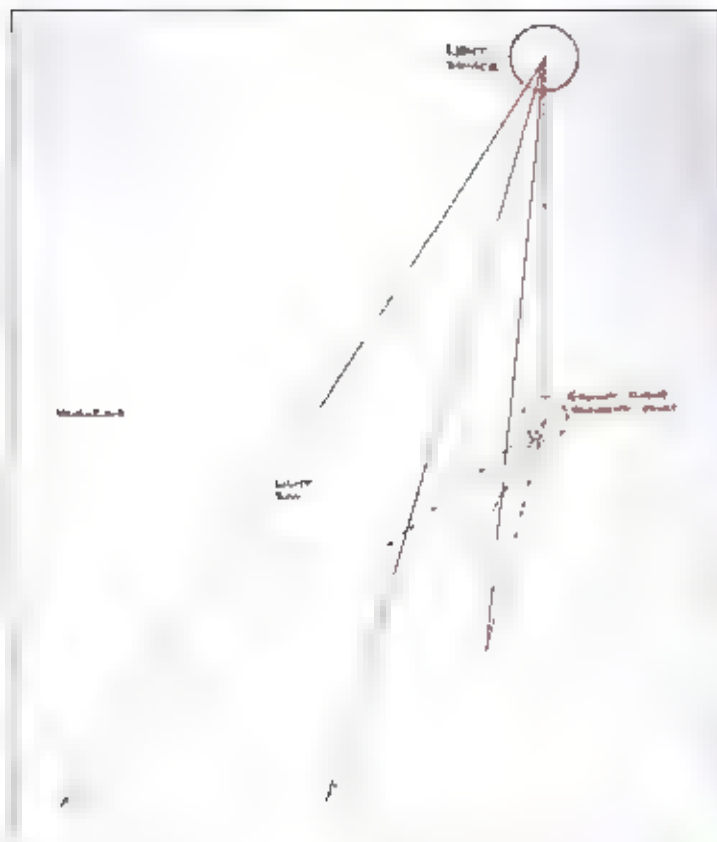


2. The body of the cylinder is re-sprayed. This is easier to achieve at an angle of 45° as required by the top plane as a result of the distance of the light source. The light is then moved to spray with the airbrush at an angle of 45° to the casting edge highlight, which was originally a slightly offset to the left.



3. The mask covering the body of the cylinder is removed and the cylinder is re-sprayed from the approximate center of the base, gently bringing the body out to the exterior as not keeping it within an area retaining the highlight. The highlight is then sprayed from the approximate center of the base, gently bringing the body out to the exterior as not keeping it within an area retaining the highlight. The highlight is then sprayed from the approximate center of the base, gently bringing the body out to the exterior as not keeping it within an area retaining the highlight.

4. The final step is to spray the body of the cylinder with the airbrush and body of the cylinder.

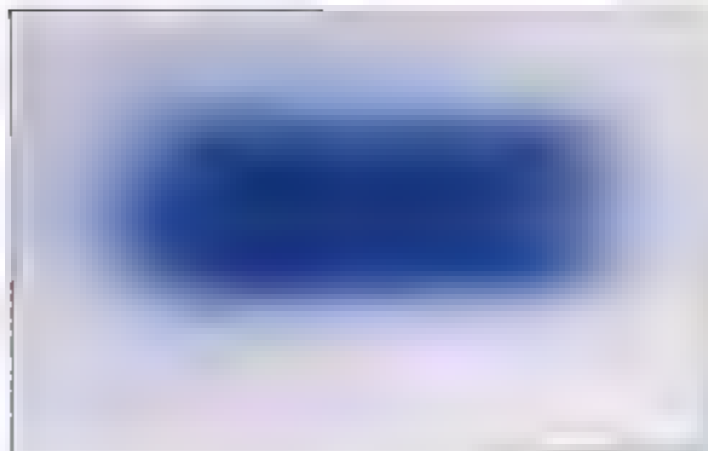


### Hard-edged Shadow

For the purpose of illustrating a hard-edged shadow, the box is shown in a position where the sun is directly overhead. The sun is shown as a point source of light, and the shadow is cast from the sun's center.

and light. The form should be well defined, but it must be understood that the varying part of the ground plane will determine the horizon and also immediately below the light source.

2 Having constructed the box and its shadow, the drawing is transferred to illustration board, leaving out the construction lines. The whole surface is then covered with a fine grid.



3 The side of the box nearest to the observer is scraped first because this gives the side in complete shadow without any reflected light. It should be scraped with a medium sized flat knife.



4 The right-hand side of the box is scraped next. This is done by using the flat knife to scrape the side of the box. The side of the box is scraped in the direction of the light source. This allows the side of the box to be scraped in the direction of the light source.

5 The top of the box is scraped next. This is done by using the flat knife to scrape the top of the box. The top of the box is scraped in the direction of the light source. This allows the top of the box to be scraped in the direction of the light source.









## Archers Andrew Farley

The importance of the light shadows being in harmony with the color of the ink is made even more apparent in the illustration. A detail of the scene reveals the impact of the light source on the composition and the colors of the archers, which is impressive given the scene being at sunset. The light comes straight and clear in the shadows, which makes these details visible. The shadows in the scene are well defined, as well as the shading of the natural elements like the dirt and grass, with some shadows applied by local masking or selective masking.

The archers also demonstrate the degree of observation, and what is being shown to the viewer. Other archers may be seen in the scene, but only if the viewer is looking at the scene from a certain angle, focusing specifically on the archers.

The archers are shown in the scene, looking towards the viewer, with the archers.



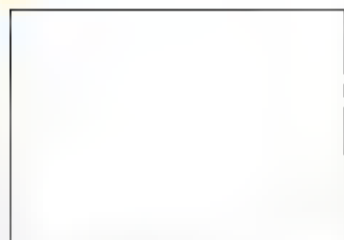
## CHROME EFFECTS

By its very nature, chrome, or any other highly polished or reflective surface, is difficult to reproduce convincingly in an illustration. While the author's is a more than useful aid, if the effect is not rendered with care and pre-planning, it can be extremely crude and simplistic. It therefore requires practice and a close study of actual examples including the methods used. Some of the illustrations reproduced in this book. This is because chrome is rarely seen without something else reflected in it, usually in close proximity.

These exercises introduce the technique of how to approach the airbrushing of chrome in both black-and-white and color. Each is demonstrated in isolation and neither should be taken as the only method. When airbrushing chrome, the approach adopted must be judged on its merits and is dependent on such things as the location of the chrome in relation to other objects or materials, the base color of surrounding objects, and colors in the environment in which the chrome needs to be shown. All of these will obviously determine the base and reflective colors to be used when spraying.

The color exercise shown here uses a convention for creating the effect of reflected color. This is based on the assumption that the lower part of a chrome object might be reflecting earth colors from the ground, while the upper part reflects lighter tones from the sky. This ground/sky division requires the artist to establish an approximate horizon level across the chrome surface.

Finally, always ensure that the air pressure through the airbrush is correct. If it is too low, the chrome will appear grainy and textured, which would take away the reflective appearance. Chrome has an extremely smooth surface.



## Monochromatic Effect

1. An ink base of this example is a rectangle drawn three dimensions high and in a horizontal position. It will be covered with black ink as a preparative for spraying.

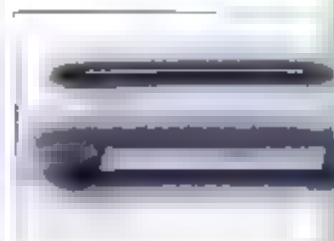


2. The body, or length, of the object is divided into various shaded areas and those having the darkest or darkest shades are masked and sprayed first. It is important that when spraying a black and white object, the darkest areas are sprayed first as this will only allow it to be easily acquired.

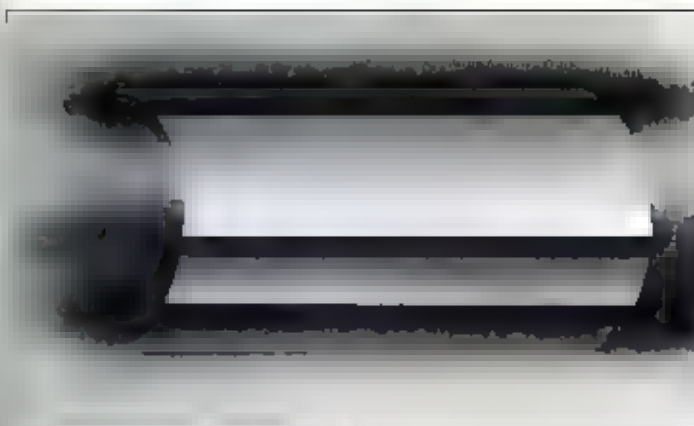
removal of masking. By following this sequence, an object will be sprayed in a way which automatically produces the correct shading and reflection. The darkest areas will be sprayed first, and the lighter areas will be sprayed last, thus creating the correct reflection effect.



3. The areas of medium are exposed and sprayed.

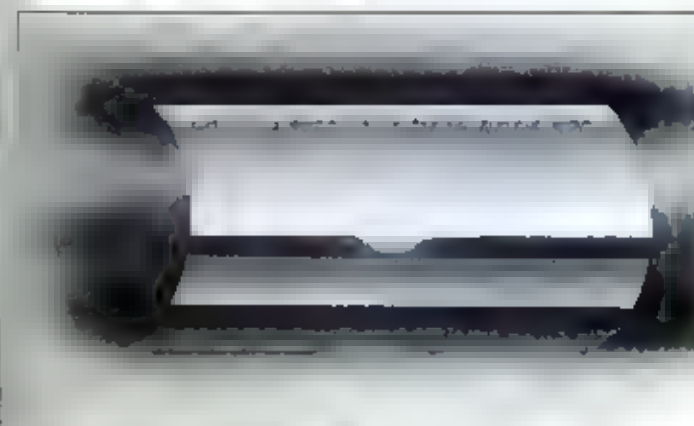


4. The first of the graduated tone areas is now cut, removed and sprayed, making sure the color does not extend too far down and thereby, further the strength of the reflection.

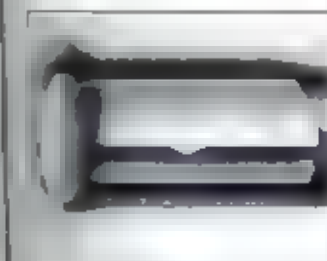


5 The second area of transparent chrome is applied to the top half of the cylinder. The white paint is applied to the top half of the cylinder.

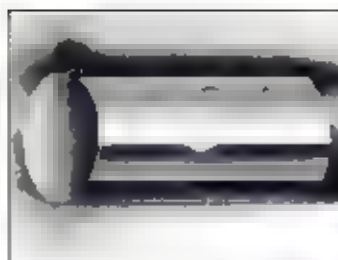
6 The white paint is applied heavily as the chrome is brought down into the area of the white highlight.



6 Using opaque white, an intense chrome is brought down into the area of the white highlight.



7 The body of the cylinder is now re-covered with masking film and the end of the cylinder is exposed for spraying. To emphasize the edge of the cylinder, the chrome is applied vertically and graduated from light to dark all the way down the side of the cylinder over the chrome surface of the end of the cylinder.



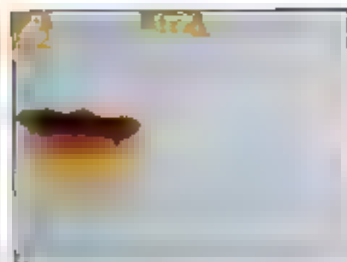
8 The masking film protecting the body of the cylinder is removed and the chrome highlight is blended with a knife along the curved edge between the base and the end of the cylinder.



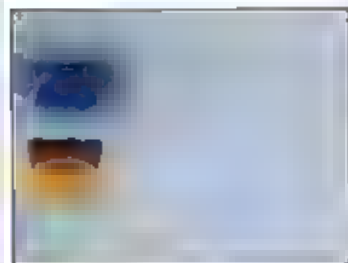
9 Another opaque white highlight is applied, running over the chrome highlight, as blended back in stage 8.



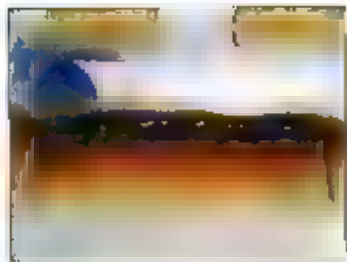
10 The surrounding masking film is removed, revealing the finished work. With more practice and by observing actual chrome, the work soon becomes apparent that there are many subtle variations in the chrome effect, and the work is done as a chrome effect.



### Ground/Sky Reflection

[illegible]

2. The acetate mask is removed and blue is then sprayed from the top of the cylinder and, gradually decreasing toward the horizon, to be effective. This color should have a blue tint. The color toward the horizon should be a greenish blue.

[illegible]

4. The accurate mark is removed and is filled in for the next 30 days after being diagnosed with the disease.

[illegible]

6 A "grain grid" of square wire, is stretched taut and about the "near" grain grid and approximately in the plane of the body of the "far" grain grid and exposed at its ends. Both are secured at their ends to the selected horizon.







# Black-and-white faucets

John Brettner

As shown with the full-color illustration, it is a matter of a few minutes to create a black-and-white illustration of a chrome faucet. The illustration is a black-and-white illustration of a chrome faucet. The illustration is a black-and-white illustration of a chrome faucet.

Because the illustration is a black-and-white illustration, it is a matter of a few minutes to create a black-and-white illustration of a chrome faucet. The illustration is a black-and-white illustration of a chrome faucet. The illustration is a black-and-white illustration of a chrome faucet.

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# Laser-cut brass John Brettoner

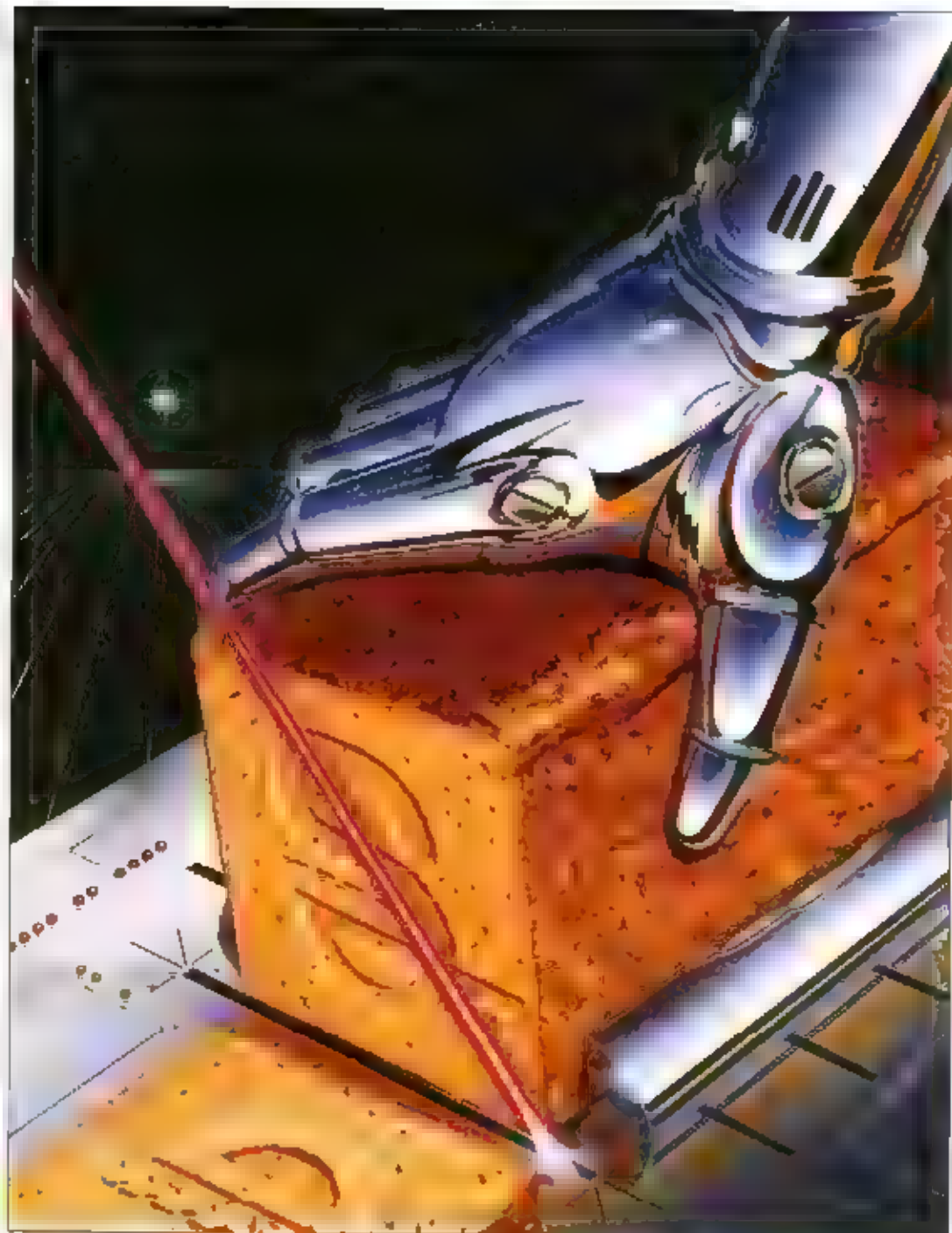
Striking contrast between the metallic sheen of the laser-cut brass and the dark, textured background of the book cover is the key to the design. The laser-cut brass is a material that is not only durable but also has a unique texture that is not found in other materials. The design is a combination of the laser-cut brass and the dark background, creating a striking contrast. The laser-cut brass is a material that is not only durable but also has a unique texture that is not found in other materials. The design is a combination of the laser-cut brass and the dark background, creating a striking contrast.

In addition, the laser-cut brass is a material that is not only durable but also has a unique texture that is not found in other materials. The design is a combination of the laser-cut brass and the dark background, creating a striking contrast. The laser-cut brass is a material that is not only durable but also has a unique texture that is not found in other materials. The design is a combination of the laser-cut brass and the dark background, creating a striking contrast.

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## CORRECTION TECHNIQUES

Errors and accidents are unavoidable; it is therefore necessary to devise quick and effective techniques which can rectify the situation without having to resort to a complete re-start. The example illustrated here, an irregularity in the spray quality, is a common mistake, usually the result of lack of control. Sometimes it is caused by dried paint particles being blown onto the artwork through poor cleaning of the airbrush.

**Over-spraying with White**

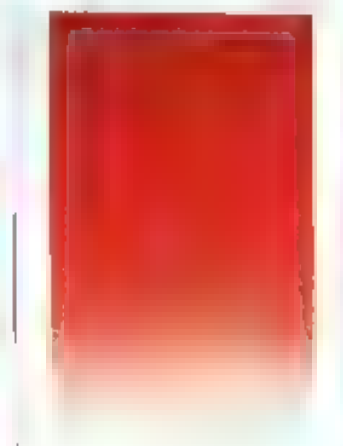
This was intended to produce a piece of artwork with smoothly graduated color running from maximum strength of color at the top to a very soft and subtle strength at the bottom. However, it can be seen that a small but noticeable error has occurred only being made in the lighter portion of the gradient.



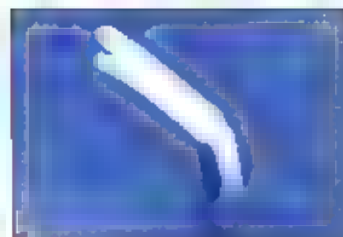
2 To rectify this mistake, opaque white is sprayed over the entire panel width or the colored area, filling the irregularity, but gradually, from the bottom to approximately the middle so as to retain the original gradient.



3 To remove the required density of the total gradient, the area is resprayed with the original color after the white paint has dried.



4 When the mask is removed, the effect is of a near area of graduated color.

**Lifting Watercolor**

When correcting a color mistake on a painted area of the artwork, color buds may be used to remove them if the color is fairly strong. It may be necessary to use quite a few buds, especially if the mistake is large. The removal must be brought back to the white of the original surface. This method is not always effective when used on a textured surface, such as rough board-mounted paper, because the pigment becomes ingrained in the surface. It is best restricted to smooth finishes.

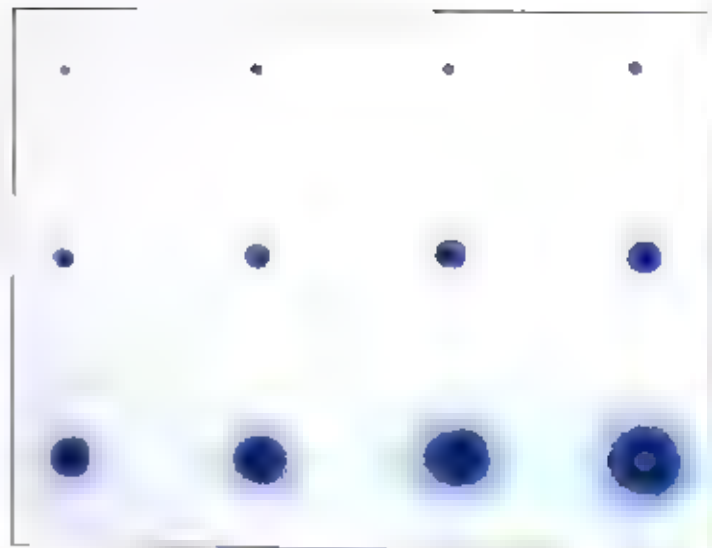
**Removing Color Bleed**

In this example, the paint was sprayed onto a textured surface. On lifting the mask, the ragged edge of a smooth and sealed surface, some of the paint was removed with an aid to which the paint is thoroughly dry. Reinforce around a small area with the same color.

## DOT CONTROL

Many people, when first introduced to the airbrush, believe it is only capable of spraying medium or large areas and is not suitable for fine, detailed work. Plenty of dot control exercises will not only prove them wrong, but will also build up confidence and skill in using the airbrush. It is also good practice for applying sprayed dots as highlights to give sparkle to the finish of a detailed illustration. This technique is covered more thoroughly in the following section.

1 This shows a sheet of paper with dots laid out in five horizontal rows. The control is in sweeping to achieve the same size and color intensity in each sprayed dot.



2 Here three rows of dots have been drawn, progressively from small to medium to large. As every dot in the sequence will be the same, extending your control of air flow and pressure will allow the airbrush nozzle to make the outward surface to achieve the right size of dot.



3 To increase control of the airbrush, the dots have been sprayed individually, rather than in rows. This allows the artist to control the size and color intensity of each dot, ensuring that the dots are of the same size and color intensity.

## DOT HIGHLIGHTS

The use of dot highlights is a particularly valuable means of adding that final, finishing touch to an illustration. Highlights must obviously be used only on those surfaces and on edges which would normally reflect light in such a concentrated way. They should appear as an integral part of the object and must always conform to the chosen direction of the light source.



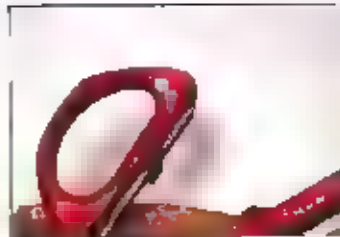
## On a Curved Edge

1 To achieve the edges of a dot highlight, the intensely reflected light must be applied in a concentrated, three-dimensional pattern. Concentrated dots of white light have been scratched onto the angles. It should be noted that

dot highlights are short, thin lines spaced apart. If you have a large part of the handle, the highlight should be applied. The highlight should be applied just above the top and bottom of the handle, and it should be applied at a distance away.



2 Opaque white dots have been applied with a brush in selected areas of the scratched highlights. The dots are applied in a series of small, spaced-out dots.



3 Opaque white is then sprayed directly over the dots to diffuse the edges, although in some cases this may not be necessary.



4 The completed image by comparison with the last stage in this example. The dots are now more visible, and the highlight is more defined in the finished image.



## On a Metallic Surface

This example shows the application of dot highlights to the leg of a robot. These highlights are simply applied

in a series of small, spaced-out dots, and are applied to the affected portion of the leg.



# **Porsche and further John Spiers**

Dot highlights are most commonly used in still subjects, but the illustration of a car is an exception. For why? John Spiers, keeper of the dot studio, explains some of the effective highlights in these areas

where intense light was reflected at the height of the sun but at the same time, in his example, the highlights have been used in the center of the car's body, which is painted and polished, making it appear as if the sun is reflecting off the car's surface in the direction of the vehicles are traveling.

Not only does the intensity of the sun's reflection create a dramatic effect, but it also creates the feeling of speed. The car is moving at a high speed, and the highlights are being used to create a sense of motion. The car is moving at a high speed, and the highlights are being used to create a sense of motion.

For passing it, the car is an example of a car that is moving at a high speed. The car has been used in the illustration to show the car's speed and the car's direction of travel.



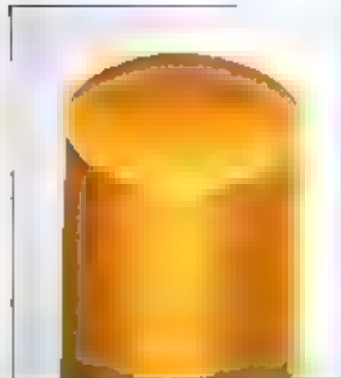


#### On an Angled Edge

1 The basic cube has been sprayed with a high degree of contrast shading.



2 To enhance the contrast and to add gloss, a dot highlight has been sprayed, reflecting on the rounded corner of the cube. The effect is initially makes the cube appear to be finished with a more reflective and brighter surface.



#### Multiple Dots

1 The upper part of the cylinder is shown before applying the highlights.



2 The cylinder is shown before applying the highlights. The highlights are applied to the top and front faces, making them appear brighter and more reflective.



3 The final rendering of the cylinder, showing the highlights and the drop shadow effect.

## DROP SHADOW

Drop shadow is a method of using cast shadow to emphasize the principal object in an illustration, either in part or to throw the whole object into relief. The shadow areas can also be used to create the illusion of different levels. Refer also to CAST SHADOWS.

### Using Masking Film

**1** A sans-serif character "M" is used to demonstrate the drop shadow effect, and both the character and its shadow are drawn together in the equilibrium position.

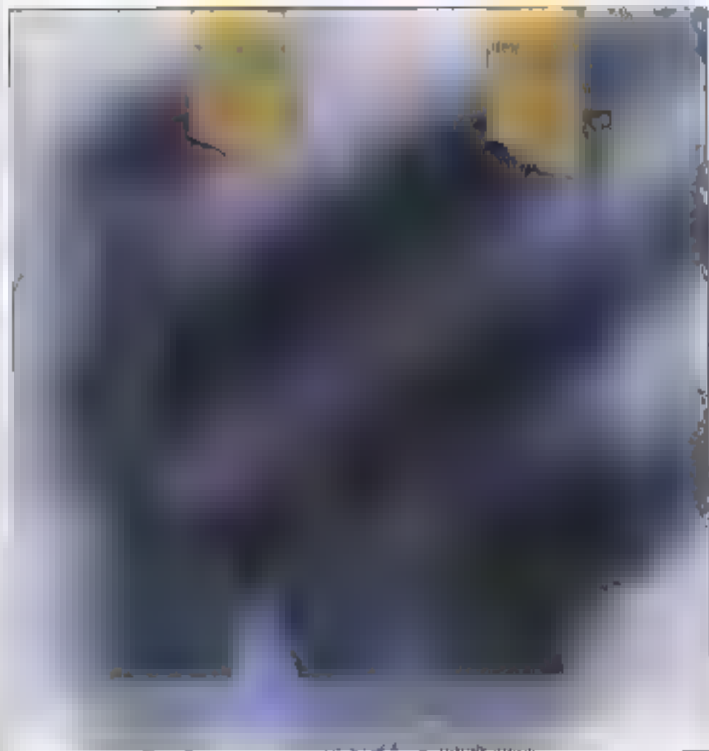
**2** The drawing is then transferred to the studio or board.

**3** After securing the required masking in the character area, the masking section is rigidly drawn and pulled back some 1/4" to the right. The exposed character is then covered with irregularly graduated, vertical stripes, giving the effect

**4** The rigid mask for the character is removed and the shadow is cut. This is sprayed with a flat even color to add uniformity to the area enclosing the shadow.

**5** After the required depth of the shadow is obtained, the masking film is removed and the resulting one

drop, hard edged character and area of shadow.



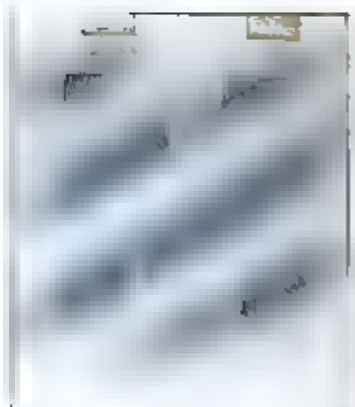


### Using Acetate

1 The character "M" is used, but this time acetate is used as the masking medium.



2 To maintain the character's original position, the acetate mask is firmly placed over the drawn character. The acetate is then cut out.



3 The main part of the acetate mask remains. The area surrounding the character, which is a useful for spraying, is cut out. The mask of the character is then positioned in the center of the artwork awaiting further use. The character is sprayed, following the style as the masking film example (pages 20-4).



4 A duplicate of the spraying of the character. The upper part of the acetate mask is removed and is slithered downward and to the left for the spraying of the shadow.



5 The sprayed copy of the character is used to protect the exposed areas of the sprayed char-

acter, and the drop shadow area is sprayed with an even tone.



6 When both acetate masks have been removed from the artwork, it will be noticed that because acetate is not adhesive, the drop shadow

has acquired slightly soft edges. In some cases this effect may be preferred in the hard-edged finish obtained by using masking film.





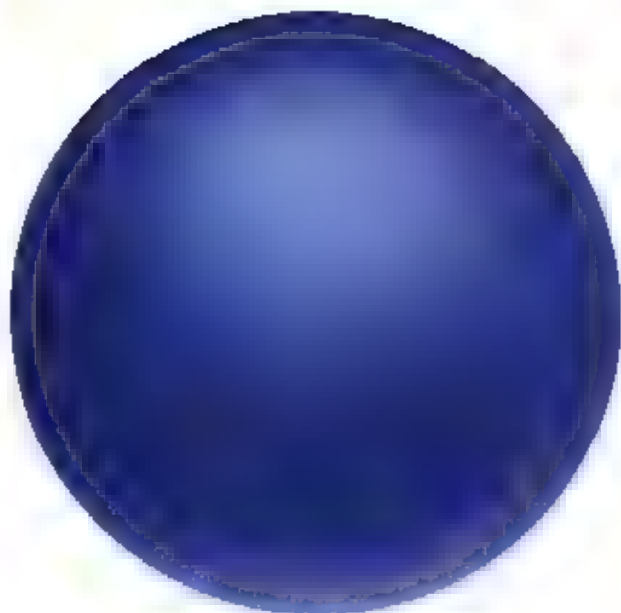
Oyster  
Pete Kelly

As a child, I was always  
 drawn to the sea.  
 I would sit on the beach, watching the waves  
 crash against the shore, and  
 think of the oysters that  
 lived there.

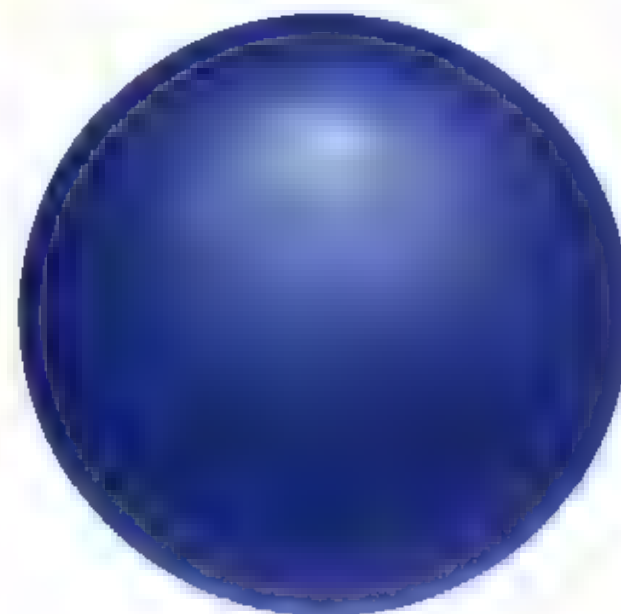
## ERASURE

This is a general heading referring to the use of erasers, both solid and the pencil type, which may be used for corrections and for applying highlights to specific areas of the artwork. This technique is usually only used when applied to the areas which have been sprayed onto a smooth coated board, of the type commonly used in the preparation of ink and drawings. Furthermore, it is best applied to illustrations which have been sprayed with watercolor. This is because the surface layer of sprayed watercolor paint is extremely thin. On gouache and acrylic sprayed surfaces, there is more chance of damaging the surrounding color, and therefore overspraying with opaque white is far better and less risky.

As a correction technique, erasure should be limited to small areas. When used to create highlights, a hard, pencil-type eraser is by far the best, because it is possible to maintain a reasonably sharp point on the rubber core, which will give greater control. The finish varies according to the amount of paint removed. This could range from complete exposure of the white of the board to very subtle highlights such as would be seen on matte or satin finished surfaces. With care, the pencil eraser could also be used to enhance contrast, especially when much of the difference between the lights and the darks has been lost by excessive color application.



1 This existing sphere has been sprayed with a dull highlight of translucent non-polished surface.



2 At the next application of the highlight, the core has been erased with a circular motion using a pencil eraser. It will be noted that the amount of paint removed has decreased, so the highlight is less pronounced.

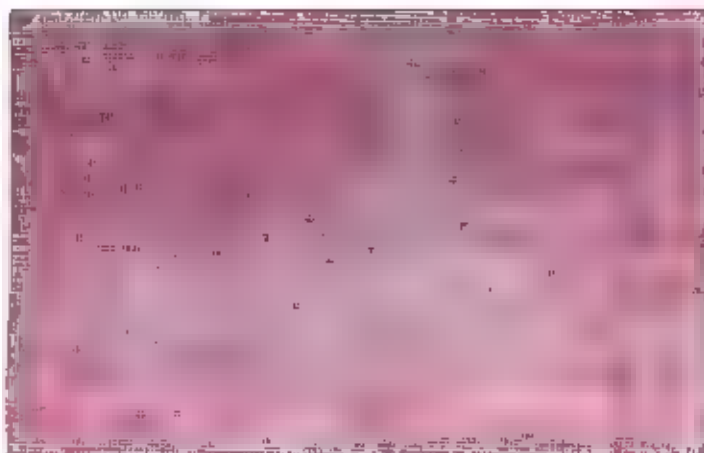
## FABRIC MASKING

There are occasions when traditional methods of rendering textured surfaces with an airbrush are not as effective as one would hope. The use of medium to coarse fabric opens up additional options which, when applied to an illustration, will give a surface texture not necessarily identifiable with the fabric used. Some do reproduce the texture of fabric weave, and there is a special technique for achieving a more realistic fabric mask which allows a closer approximation to the effect. Besides testing a piece before use, it is also worth keeping samples of both the fabric and the spray effect from it for future reference.

Types of fabric suitable as masking materials are those which have an open weave to allow the sprayed color to pass through and between the fibers. The texture may be applied over large or small areas, which in themselves can be regarded as

an advantage of thin and contrast. The material need not be used just because of its texture, for the frayed edge of torn fabric also offers a characteristic result. A form of repeat pattern could be applied using, for example, a figured open-weave as seen in old fashioned glass curtains, or indeed in many types of lace which are available.

A background texture can be applied over the artwork before the object or subject itself is sprayed. Naturally this requires the principal part of the illustration to be sprayed in an opaque medium in order to prevent the texture from showing through. Small controlled areas may be sprayed by overlaying the whole of a previously cut piece of masking film.



1 In this demonstration of fabric masking a piece of fine-weave material which has been used to spray a light gray has been used. The fine gray is not even in shade.



2 Masking opens up a square of the fine grid around all four edges, which is allowed to dry. The artwork is then sprayed with a light gray. The irregular border of the fabric is then a piece of material which has been used, giving a more open and coarse grained finish.



3 This example shows the effect of using a piece of fine-weave fabric to spray a light gray. The regular shape of the grid is repeated, appearing as a well-defined, but not a very obvious connection with the original fabric texture.



4 Close attention must have been used here giving a more random effect.



5 A simplified effect is obtained when the grid is not used, giving a more random effect.

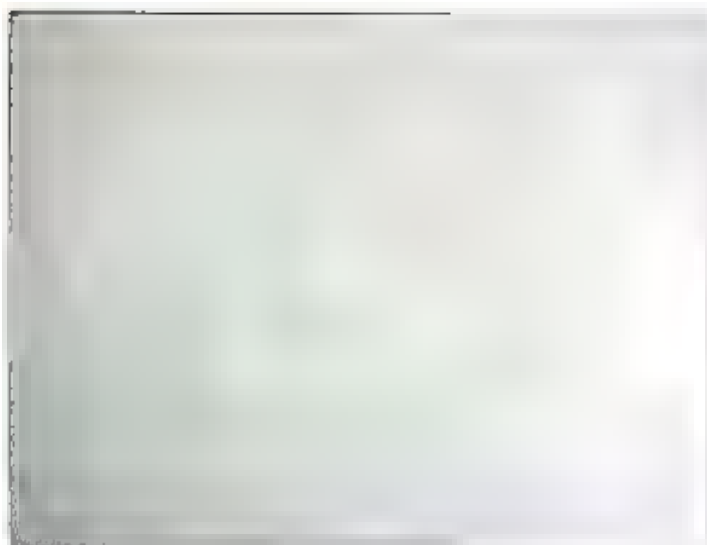
# FILM MASKING

The use of transparent self-adhesive masking film in a brushing is the most popular method of protecting areas of the artwork which are not currently being worked on. Masking film is available with either a matte or a gloss finish and is supplied on a protective backing sheet which can be used to save cut masks likely to be needed again. The adhesive on the film is low-tack, allowing masks to be placed over a clean or previously sprayed surface and subsequently lifted without damage to the underlying material.

Because the film is transparent it allows those areas covered to remain visible, which is extremely useful when judging the strength of color and shading against those areas already sprayed. It is also possible to remove excess and residual paint from the film by carefully wiping over it with a damp cloth, tissue or absorbent cotton, without damaging the artwork or the area exposed for spraying (this of course applies to areas which remain water-soluble for a long time).

When using masking film, always use it with sharp, new blades, as blades quickly lose their edge and tend to tear the film rather than cut cleanly through it. Gentle but even pressure is required when cutting, to avoid scuffing the artwork.

In the two examples given here particular note should be taken of the sequence used in applying the paint layers. They are not the same for transparent watercolor and opaque gouache. With a transparent medium, the depth of shade and color is built from dark to light by overspraying translucent layers, with the lighter medium being applied independently and light colors can be sprayed over dark if necessary.



## Watercolor Medium

### 1 To demonstrate a reasonably

large area color job, is used to cover the subject matter. First a drawing is prepared on detail paper, as shown

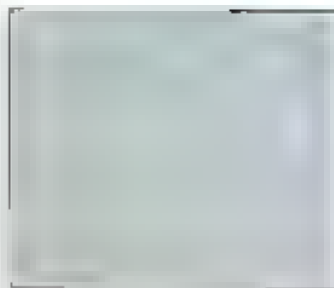


### 2 The subject is prepared on jeweler's rough



### 3 The finished and dry job on the subject matter is shown, with the subject matter being prepared on detail paper, as shown





4. The first step is to identify the main idea of the passage. The main idea is that the author is discussing the importance of maintaining a healthy diet and exercise routine. The author argues that a healthy diet and exercise routine can help to prevent chronic diseases and improve overall health. The author also discusses the importance of maintaining a healthy weight and the benefits of regular exercise.



5. The spraying equipment is designed to spray the herbicide in such a way that will have the least effect.



**B** The tertiary cones of the leaves  
in the southwest show secondary  
markings in lines of small dots.  
The cones in the upper part of the  
spruce stand are of the same type.



7 The first parts of the leaves, the  
59 young, are the lightest shade. At  
the way all the leaves of the  
leaves has been removed and the  
lighter shade of variations are expected  
with the



8 On completion of the leaves all mask on 1 cm is removed. This is now done if the wood is very dry. The leaves are then removed. All wood is then left to dry for 24 hours. The wood is then left to dry for 24 hours.



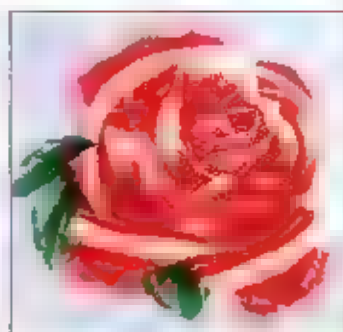
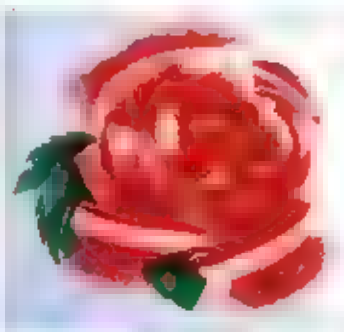
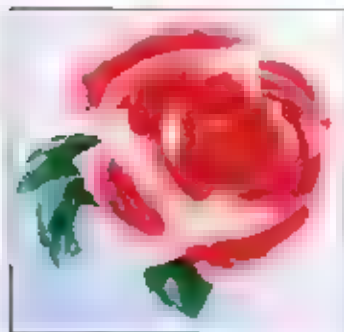
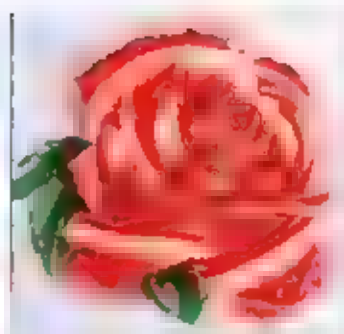
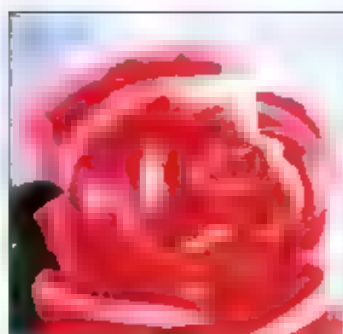
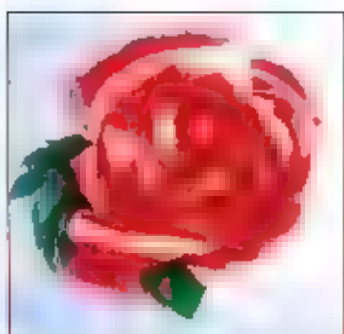
**9** The sequence for the *iso* allows the same pattern applied to the leaves, working from the furthest branch ( $\infty$ ) inward, by radius.

and that the lighter colors (11a, 12a) range dar shades are displayed in the upper part of the lower.

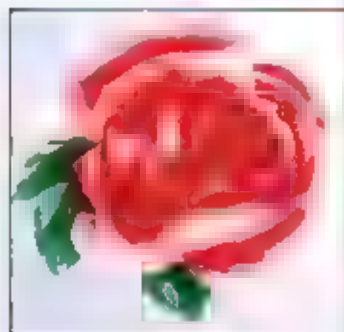


**10** The force values and form are built up with the spraying angles.

Figure 10. The arrest peaks between  
the background



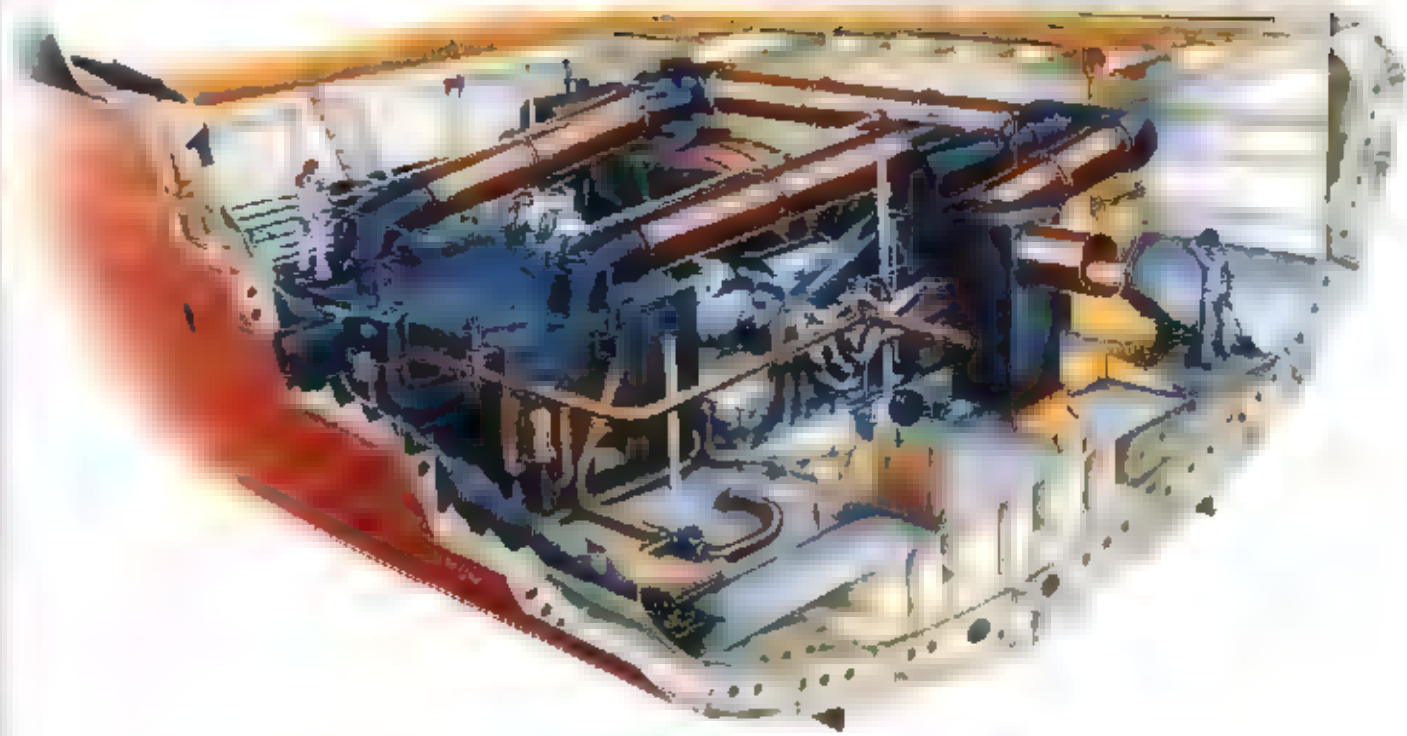
18-19 11-12 The edges of the petals are masked also, leaving a soft, fuzzy effect at the working border of the mask.



11-15 The edges of the petals are masked also, leaving a soft, fuzzy effect at the working border of the mask.



19 Finally, the remaining unmasked film is removed, and the mask is ready for use.



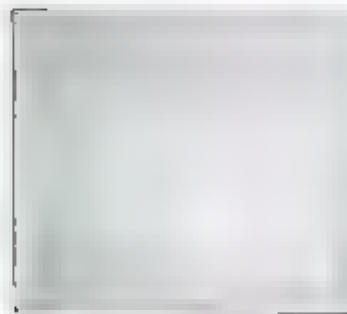
HMS Warrior's engine room, 1881  
Gary Cook

The three-point perspective illustration is a reconstruction of the engine room of the world's first iron-hulled warship, HMS Warrior and was commissioned for the book *The Victorian Warrior*. The purpose of the illustration was to give a better way of understanding of the way all the arrangements of the engine and machinery were related to each part to ship a hull structure which contained them.

The drawing was constrained on tracing paper, using copies of the original Admiralty sea-lifted drafts from the British National Maritime Museum as reference. It was then transferred onto MS100 heavy weight 1/2 inch china clay surfaced board ideally suited to both airbrush and ink line work. The illustration was rendered primarily with the traditional of white and blue, using a watercolor self adhesive masking film was used throughout with the exception of the bands of tone run

ning along a support to any open  
for which an order has been  
made. It may be used horizontally  
and vertically using a ruling per  
pendicular to the edge of the

[illegible][illegible]

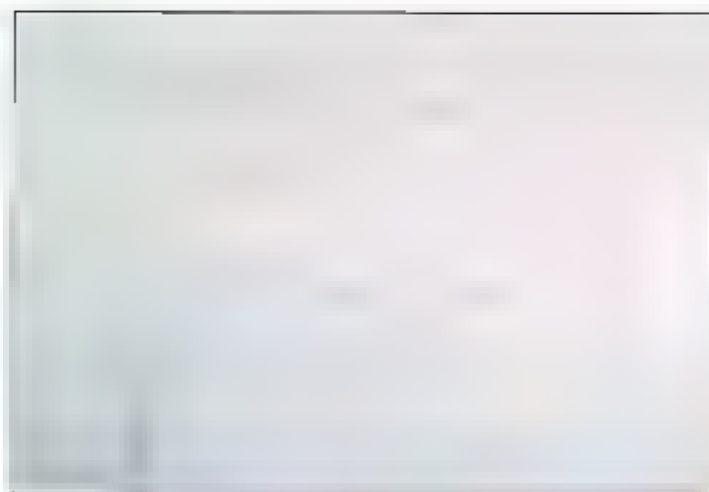


# Gouache Medium

1 The intention now is to produce a drawing of a flag with the flag and staff first in pencil on all paper



2 The drawing is transferred to board using graphite paper



3 With the detail paper drawing and the graphite drawing on board, showing the transferred drawing of the flag. The lines in this drawing will be gradually concealed by the spray paint by the Gouache quality of the paint



4 A piece of masking film sufficient to cover the image and surrounding area is placed over the artwork. Inverted by cutting out all lines of both the flag and staff. The mask is then

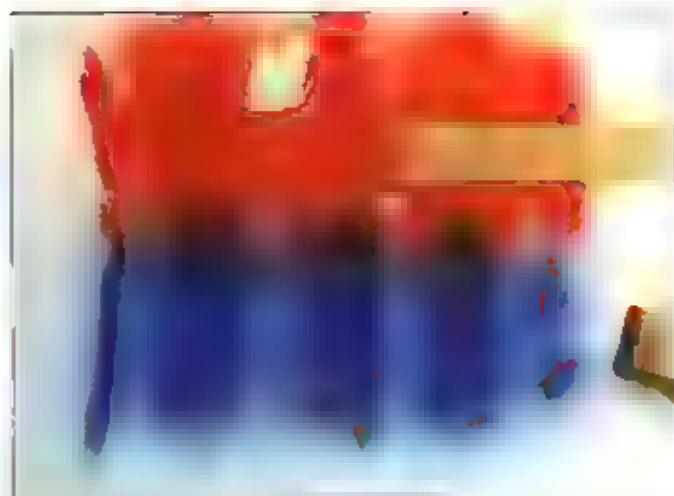
5 The top-left horizontal stripe of the flag is sprayed with drafting tape. It is then pulled back to the right. A exposed area is sprayed in a medium shade of red. This is worked

6 The vertical bands of color are then sprayed to create a flag. The

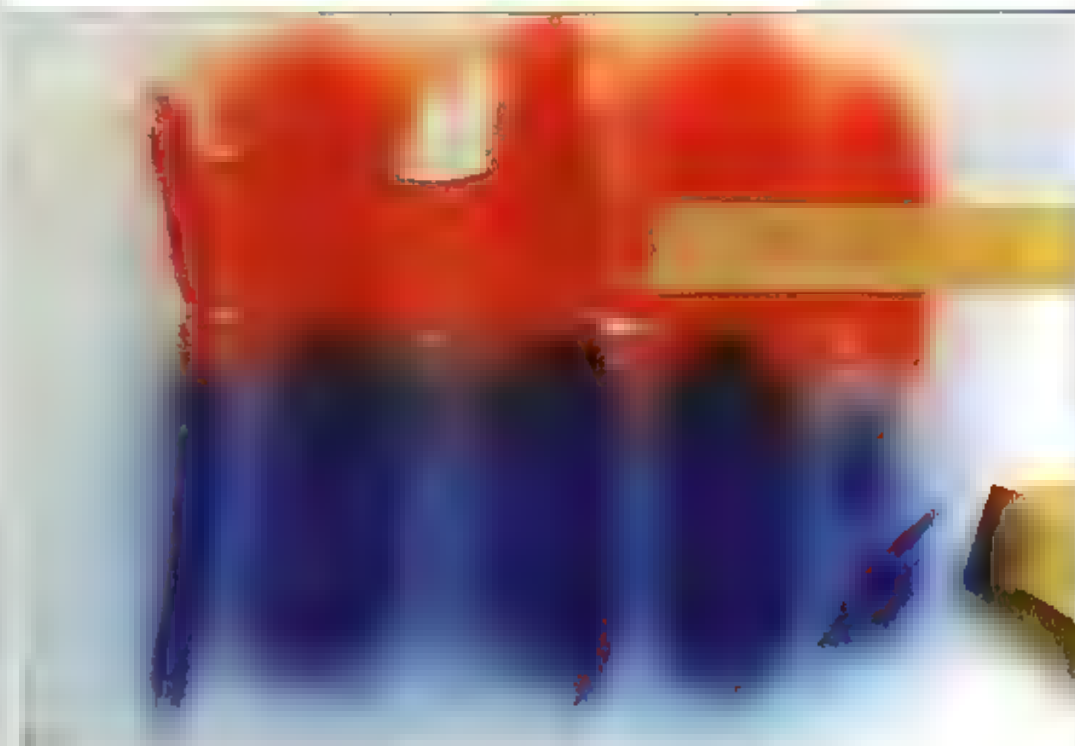




5 A tailoring dress is over  
up-eyed next, increasing the  
contrast.



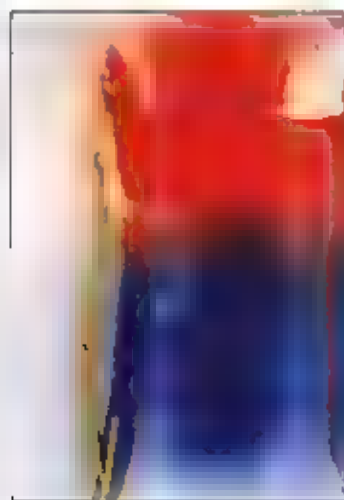
6 The next step is to add a  
color contrast and to work  
with the fabric and to add  
the next step is to add the  
medium contrast of the next



7 The next step is to add  
a color contrast and to work  
with the fabric and to add  
the next step is to add the



8 The texture of the surface is now visible. The color is still the same, but the texture is now visible.



9 The texture of the surface is now visible. The color is still the same, but the texture is now visible.

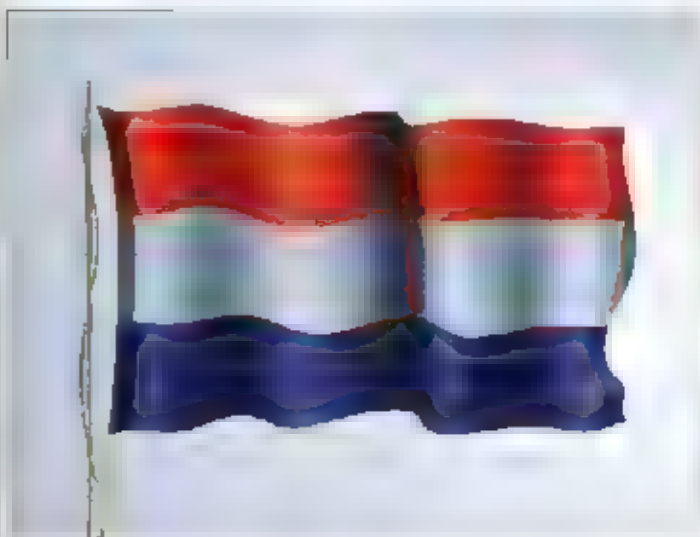


10 A close-up of the texture is now visible. The color is still the same, but the texture is now visible.

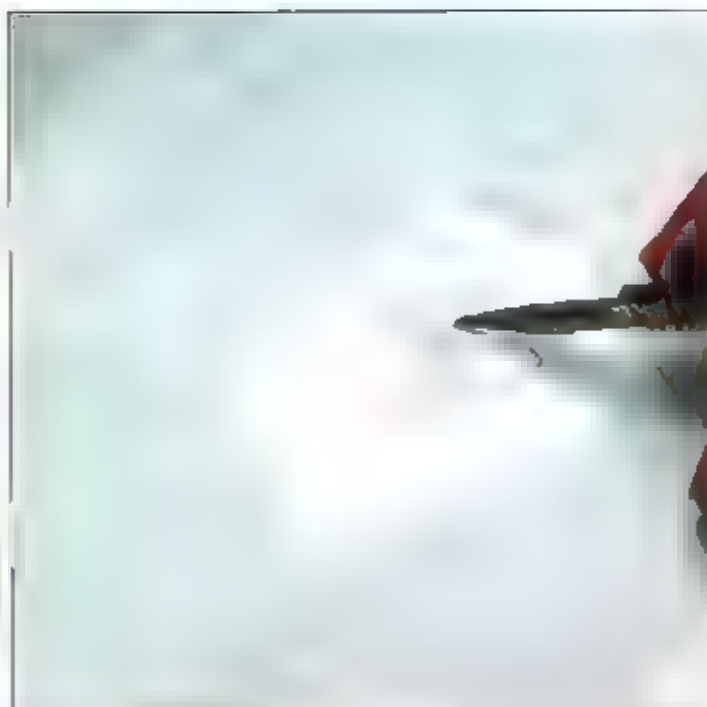


11 The pole is re-masked with adhesive masking film to hold the three colors together with the rest of the pole. A thin piece of paper is

now sprayed over all three stripes in vertical bands, bringing the three colors together and adding a continuous depth of tone to the whistler.



12 The whistling pole is now ready to be further sprayed.

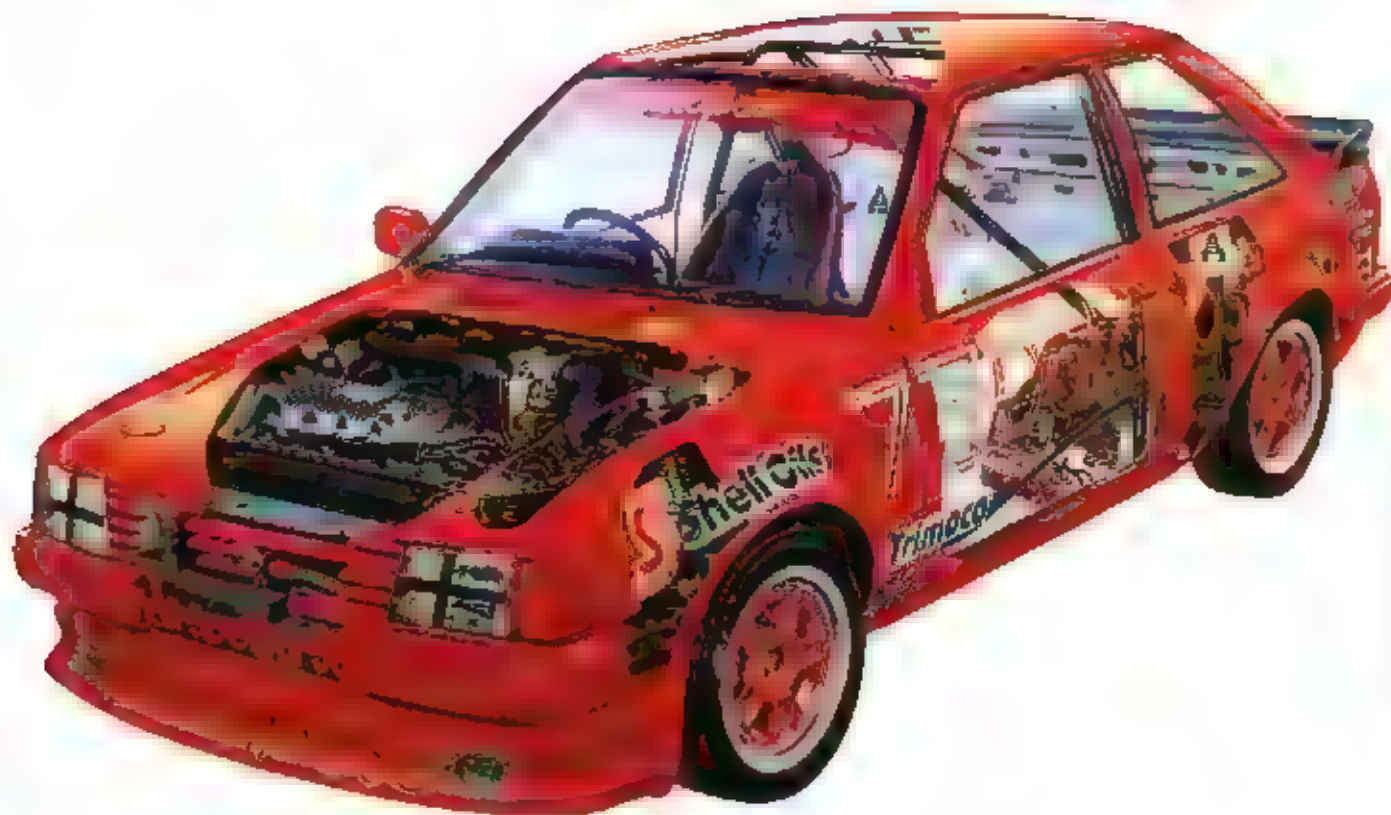


### Double Masking

Self-adhesive masking film is extremely useful to use film to work on delicate sections of a subject. Usually in the section of a subject on which only a small part of the subject is to be worked, the paper will not be able to hold the majority of the subject from residual spray, with film being applied only to this relatively small area. It is important to use a piece of paper larger than the area to be sprayed, because the film will not be given time to allow the masking film to stick to this ad-

hesive. It is a safety method for your work and a simple way to keep the other two colors of the subject from being sprayed with the same color.

This photograph shows the application of double masking. A small delicate section is to be sprayed. The background has been covered with paper with a rectangular hole cut in the appropriate place. Masking film has then been overlaid and the required shape created.



# Datapoint Ford Escort RS 1600i Paul Shakespeare

The range of textures available in the early 1980s was limited to a few basic colors and finishes. The Ford Escort RS 1600i was one of the first cars to be painted in a flat tone. This was achieved by using a special paint that did not reflect light in a glossy manner. The result was a car that looked like it was made of solid red metal. This was a significant departure from the traditional glossy finish of most cars at the time. The flat tone paint was applied in a series of coats, with each coat being allowed to dry before the next was applied. This process was time-consuming but resulted in a durable finish that could withstand the rigors of racing.

During the early 1980s, when the flat tone was first used, it was a controversial choice. Many people felt that the car looked like a toy or a cheap imitation of a more expensive model. However, over time, the flat tone became a popular choice for race cars. It was seen as a way to make the car look more aggressive and menacing. The flat tone also helped to reduce the risk of the car being damaged by fire. Since the paint did not reflect light, it was less likely to catch fire. This was a significant advantage for a race car. The flat tone paint was eventually purchased by the Ford Motor Company, which used it on a number of other cars.

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shape was not lost and the car still looked like a race car. The flat tone paint was a significant departure from the traditional glossy finish of most cars at the time. The flat tone paint was applied in a series of coats, with each coat being allowed to dry before the next was applied. This process was time-consuming but resulted in a durable finish that could withstand the rigors of racing.



## FLAT TONE

While it is perfectly possible to apply an even, flat shade of color by hand, much practice is necessary before the results are acceptable and without blemish, especially when using watercolor or gouache. The airbrush simplifies this process, although it still requires practice when applying flat shades of color which need to be transparent or translucent. When applying transparent watercolor with the airbrush, it is essential that the air pressure and amount of paint allowed through the airbrush remain constant to prevent stripes from appearing. The distance the airbrush is held away from the artwork must also remain constant to avoid variations in tonal value. However, the advantage of being able to overspray any imperfections does give the airbrush the edge over hand-painting. As a technique, the application of flat tone is directly related to graduated color, and is shown a little before it.



1 The area to be sprayed with a flat tone has been masked and the spraying proceeds from the top to the bottom, passing the airbrush from side to side over the masked area. It is always advisable to start and finish the spraying on the masking film, as this ensures that the color is laid evenly at the edges of the masked shape.



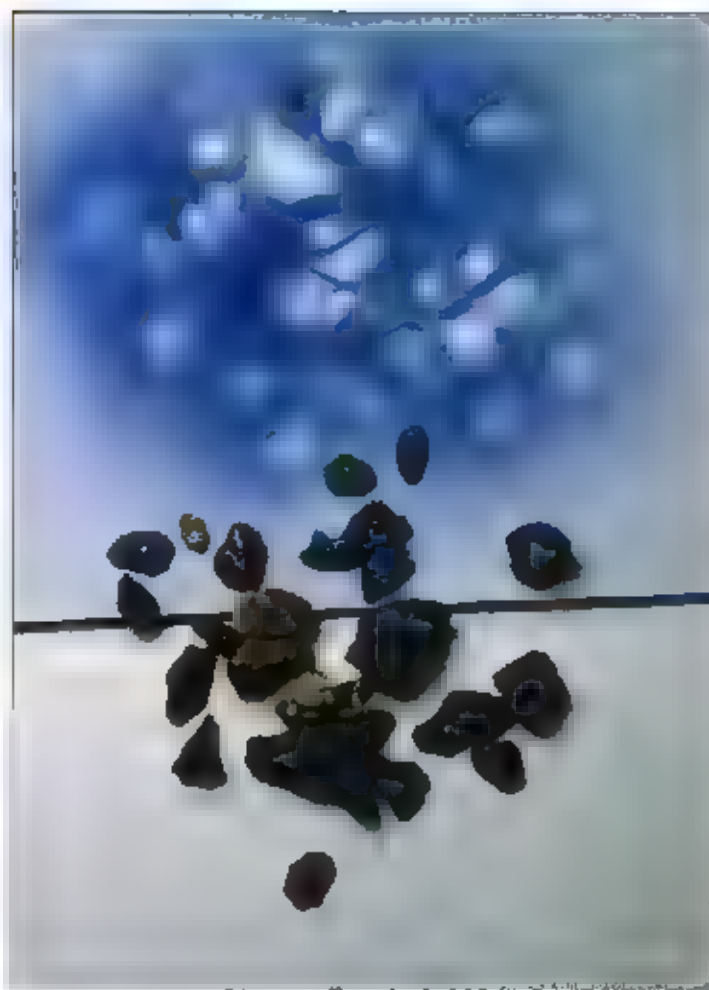
2 Color is gradually built up 'followed' by the same process as in step 1, until the desired flatness is achieved. A slightly more textured appearance than even flat color can be obtained with the airbrush. After a few minutes of spraying, the film is removed and the paint is allowed to dry. The final result is a flat, even color.

3 The final result is a flat, even color, achieved by the airbrush technique.

## FOUND OBJECT MASKING

The function of all techniques in airbrushing is to arrive at a given result. The technical means of achieving these results is unimportant if the illustration itself is successful. It may therefore come as a surprise to some to find natural and indeed manmade objects being used as masks for spraying. They open up an incredible variety of textures and shapes which can be put to use in the studio instead of working directly at airbrush just a small sample.

When collecting sample objects, especially natural ones, always make sure they do not hold dirt or dust. Besides damaging and marking the surface of the artwork, some dirt might get ingrained which would deaden the freshness and vitality of the finished artwork.



### Stones

A collection of stones has been laid on the artwork and then over-sprayed. The photograph shows the stones after they have been removed, with the effect on the artwork being apparent at the top. The stones are of various sizes and shapes, and the effect is achieved by placing a few stones first, you may find that the stones can be placed in set positions to achieve a particular pattern or texture.



### Twigs

A collection of twigs has been laid on the artwork and then over-sprayed. The photograph shows the twigs after they have been removed, with the effect on the artwork being apparent at the top. The twigs are of various sizes and shapes, and the effect is achieved by placing a few twigs first, you may find that the twigs can be placed in set positions to achieve a particular pattern or texture.



### Leaves

In this photograph a leaf has been laid on the artwork and then over-sprayed. The photograph shows the leaf after it has been removed, with the effect on the artwork being apparent at the top. The leaf is of a single shape and size, and the effect is achieved by placing a few leaves first, you may find that the leaves can be placed in set positions to achieve a particular pattern or texture.

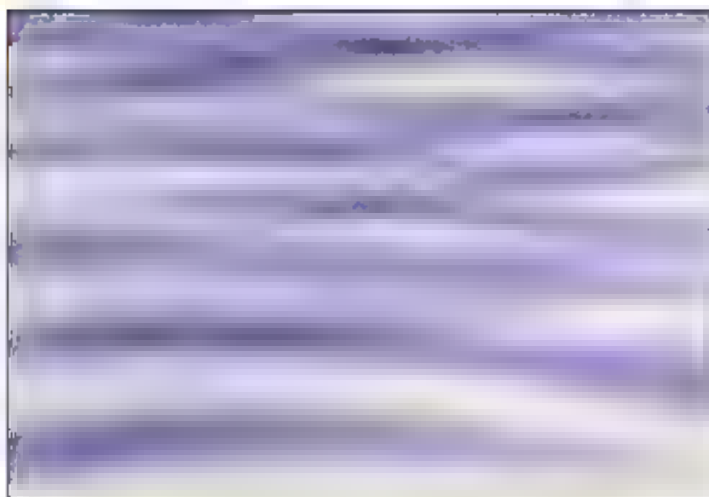


## FREEHAND SPRAYING

This is a technique requiring much practice before it can be used effectively on finished artwork, because, as the title suggests, no masks are used to guide the illustrator and all control lies in the hand. It is a skill which should be acquired because, there are very few occasions in illustration when some application of freehand spraying is not needed. Some illustrators have developed freehand spraying to such a degree that all of their work is produced this way. However, freehand spraying will always give a soft edge which is not necessarily compatible with all subjects, and it is more general practice to work with masks which define many usual shapes, but to use freehand spraying to develop form and detail within the masked areas.



As the viewer is to be enticed a subtle effect by freehand spraying. The initial spraying is light and it is essential that the control of the airbrush flows easily in the direction of the color in this case a soft blue.



2 The depth of color is gradually built up evenly from top to bottom.



3 The completed example shows how the interwoven lines have built up a color tonal effect.

## Freehand Spraying Within a Masked Shape

1 A neat and clean pencil drawing engraving 'earrings' is prepared, keeping the detail to a minimum. This could be drawn on detail paper first, which allows for corrections to be made so that the shape looks convincing or, as here, straight onto the board for spraying. An chequer board is used at a later stage to draw is completed. The board is covered with the spray gun.

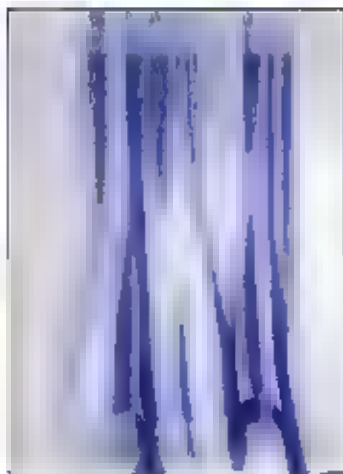


2 The first stage in the spraying sequence is to remove air from the two hard-edged shadow areas created by the deep inner fold of the earring. These two shapes are sprayed with dark shades.





3 The masking film is then partly cut and removed in order to spray these areas of the fabric which are to have a particular color. The brush should not extend to the edges of the drawing. It should also be noted that in these areas, especially at the hard edges, the shadows gradually fade quickly to the white of the board.



4 The remainder of the masking film covering the fabric is now removed, and the freehand spraying begins by building up the initial areas. As this progresses, the intensity of the coloring should slowly increase. Because of the very delicate and delicate and controlling airbrush, it may well prove easier if the artwork is turned 90°. This is because a directional spray running from left to right allows more natural movement of hand and arm than from a vertical form. When following this exercise, great care should be taken to ensure that the tones gradually soften as the depth fades away, or otherwise the color-coded image will lack subtlety.



5 The tones and shadows to be created in the "feet" of the fabric are built up in a hand-drawn style.



6 When the required depth in shade and strength of color have been reached in the exercise, just remove the surrounding masking film to reveal the finished artwork.

## GHOSTING

When it is important to show the complete exterior shape of an object, but also select internal features within it or behind it, a ghosting is used. It is particularly useful when descriptive three-dimensional drawings are being prepared.

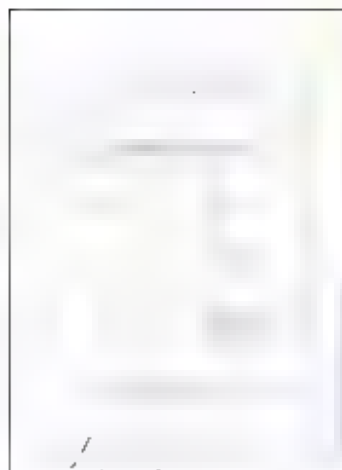
As an example, if it is possible to see the internal features of an engine when descriptive three-dimensional drawings are being prepared.

For example, a brief might require a complete cutaway view of a complex new four stroke engine and because of the complexity of the cylinder and crank block and pump casting the engine would be impossible unless enough information was included of the exterior it would therefore be practical and desirable to include ghosting.

This would enable the engine as a whole to be understood, as well as the workings and design of the interior, or those areas not normally visible.

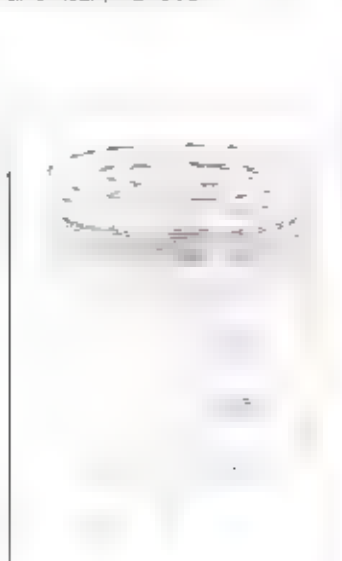
It is important to ghosting is on subtle color and shading changes which will not adversely affect the exterior in preference to a more dramatic and direct representation.

The sequence of spraying is extremely important, both to prevent unnecessary extra work and to ensure creating an image that is almost illegible on completion.



#### Ghosting Over a Section Cutaway

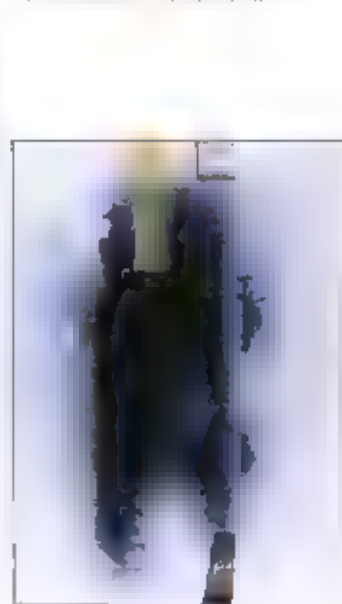
1 The form of a piston, its pin, connecting rod and part of the crankshaft, is drawn on detail paper, with the location and shape of the cutaway indicated by a dashed line.



2 The drawing is transferred to illustration board and covered with masking film.



3 The mask is removed, revealing the inside surface of the piston made visible by the angle and position of the section cutaway. It is cut and hinged to allow for these areas to be sprayed in a different color. They are then colored in heavy shadow, and hereafter called the darkest shades.



4 After painting the mask to expose areas of the medium shades, these are sprayed allowing the lightest highlight to be seen. It is then sprayed to represent the left hand side of the crankshaft. It may be easier to turn the artwork 90° so the crankshaft passes horizontally across the page.

5 The same process is completed for the right hand face, but now the reflect red highlight is toward the outside of the piston.



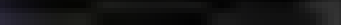
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6 Other areas of the drawing are etched in medium to give texture to the form and shape. The areas of the drawing are the areas to be etched and the drawing area is the area to be etched. The drawing area is the area to be etched.



7 The process of etching is continued, varying the depth of the etching to the direction of the etching and the depth of the etching. The etching is done in a spray of etching solution and the etching is done in a spray of etching solution.

8 This stage shows the thickness or depth of the connecting and so on, with sufficient contrast and for indicate the shape clearly. Notice should be taken of the use of etching solution, which not only allows for the etching of the part but also the etching of the part.



9 Replace the previous masks the area of the etching and the etching is done in a spray of etching solution and the etching is done in a spray of etching solution.



10 The previous shades have been replaced at this stage and the etching is done in a spray of etching solution and the etching is done in a spray of etching solution.



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12 The final stage of the etching of the piston is the final stage of the etching of the piston. The final stage of the etching of the piston is the final stage of the etching of the piston.



13 The next step involves doing the following: a) etched into the remaining masking film removed prior to detail work being applied by hand with pencil and brush. b) High contrast black and white using a fine point brush.



15 Next, the medium shades of ghosting are sprayed, which reduce the continuation of the grooves for the piston rings.



14 The artwork is completely recovered with new masking film in preparation for the ghosting to be applied. The areas which are the lightest are cut and removed. In this example these areas include the top of the piston. The shaded ghosting is sprayed using opaque white.



16 The darkest shades are the last to be applied, giving emphasis to the depths of the top recess, the grooves for the piston rings and the thickness of the piston base.

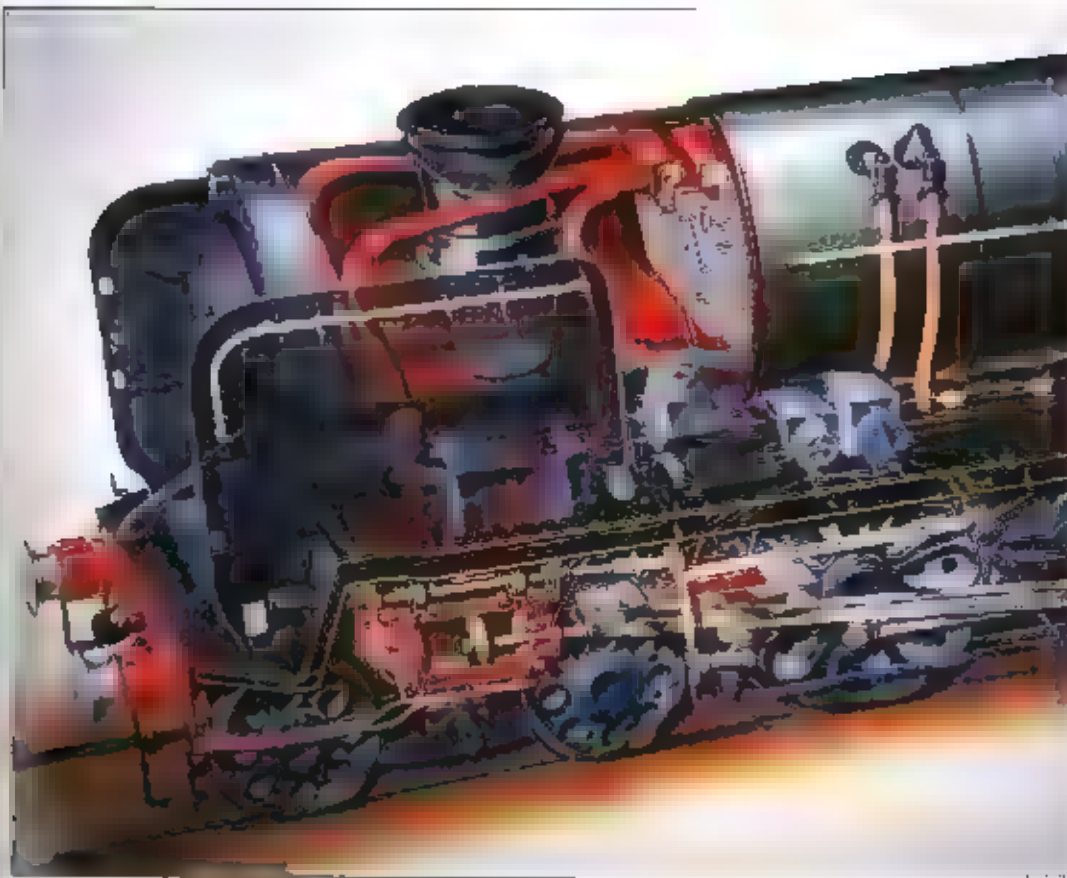


17 The masking film laid on for the ghosting is removed, leaving an image which shows the complete exterior of the piston as well as the '3-way' section, revealing the connecting and 3rd guide pin.



18 To improve the depth of the shadows, the artist is necessary to re-apply the ghosting as it is done. Or using pencil and brush paint an opaque white. This is an improvement the quality and finish. Great care must always be taken when ghosting because it is so easy to lose detail and contrast which would defeat the exercise and which is a far situation if the sculpture is

masked with a black and white paint and used as a guide for the final work. A high contrast black and white paint is used for the final work.



**Southern Railway Merchant Navy  
Class 4-6-2 locomotive Eberman  
Lines (detail)**  
Mark Franklin

[illegible]

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in the first place, the fact that the  
company is not a public company  
has led to a number of problems  
and that the company is not a public company

$$\begin{aligned} & \text{H}_2\text{O} + \text{CO}_2 \rightleftharpoons \text{H}_2\text{CO}_3 \\ & \text{H}_2\text{CO}_3 \rightleftharpoons \text{H}^+ + \text{HCO}_3^- \\ & \text{HCO}_3^- \rightleftharpoons \text{H}^+ + \text{CO}_3^{2-} \end{aligned}$$

1. 在 1990 年 12 月 31 日，A 公司有一笔应付账款，金额为 100 万元。
   
 2. 在 1991 年 1 月 1 日，A 公司有一笔应付账款，金额为 100 万元。
   
 3. 在 1991 年 1 月 1 日，A 公司有一笔应付账款，金额为 100 万元。
   
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 10. 在 1991 年 1 月 1 日，A 公司有一笔应付账款，金额为 100 万元。

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## GRADATED TONE

Gradated tone means the application of color which changes gradually from dark to light, either fading into the white of the board or working into another color.

When the contrast is controlled a gradated tone can eliminate the need for oversprayed highlights.

If sprayed with a transparent watercolor over a previously applied color, a transparent effect is possible in which the first color appears to show through the second. Tonal gradation is the principal means of modeling three-dimensional form and of illustrating and broadening gradated tones and colors make atmospheric backgrounds.

Gradated tones are particularly effective in creating skies. If, for example, a midday sky is desired the first gradated tone would be a soft base of yellow ochre or Naples yellow running from the horizon up, and blending into the white of the artwork about a third of the way up.

Then a second gradated tone of cadmium red, also blending in or about the same point.

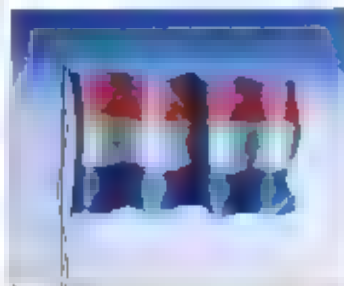
Finally a gradated tone of cerulean or cobalt blue is sprayed from the top of the artwork to blend with the previous two colors, fading out down towards the horizon.

The facility which the artist gives in producing gradated tones, whether on a large or small scale, is one of the distinct advantages of spraying. While it is possible to achieve the same result by hand, it becomes increasingly difficult to manipulate with great exactness as the tone grows darker. The spray gun, however, is controlled by masking, by the brush spray control, the flow rate, or by adjusting the pressure.



## Background Gradation

1 A gradated tone is to be applied as a backdrop to the figures. The artist is working on a transparent film and the background area is cut out with a stencil using only the spray gun to spray.



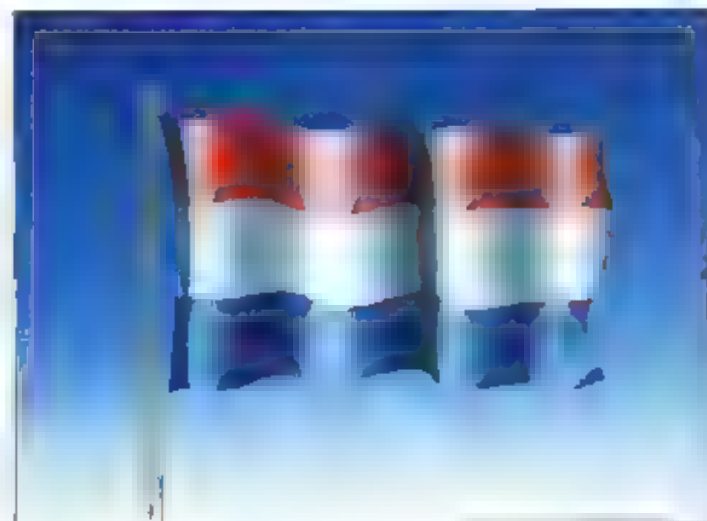
2 The gradated tone is applied to the background area. The artist is working on a transparent film and the background area is cut out with a stencil using only the spray gun to spray.



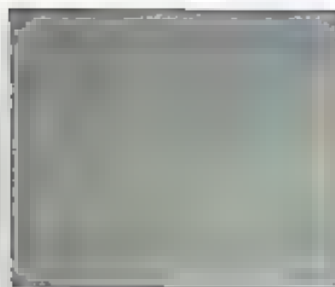
3 The process is continued until the color slowly increases in depth as it is brought further down toward the lower edge of the artwork.



4 The final stage in creating the gradated tone is shown. The color is now a deep blue and white at the lower edge of the artwork.



5 Finally, the mask is removed and the color is applied to the background area. The artist is working on a transparent film and the background area is cut out with a stencil using only the spray gun to spray.



### Gradation Within an Object

1. A drawing of a robot making a

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2. While covering the top part of the lobe is removed and the jaw back with a piece of masking tape. A section is then removed vertically to the bands of graduated color following the shape of the lobe.

3 The played mass  $\bar{m}$  is again split as the normal  $\bar{m}_n$  and  $\bar{m}_s$  are hinged, is pulled back to expand the control valve in the 8 shape. The graduations on the jet are continued in the same way.

**4** The final stage of separation is the rear part of the ribbon after entering the various treatment stages. It is:



5. All marks of 1 to 3 are earned showing the student a mixed ability. In general, all are having only a "graduated" color. The dark shades or white highlights have been added.

## HALOING

Halving, as its name implies, is an application of a circle of light that should appear as a soft, gentle glow fading away upward from the reference object. It can be used to treat an effect of distant radiation. A cosmic galaxy example shown here is to soften and diffuse brightly lit inner objects.



1. A bright, glowing crosshair-like pattern is visible in the center of the image, representing the initial stage of the halving process.



3. A crosshair-like pattern is visible in the center of the image, representing the initial stage of the halving process.



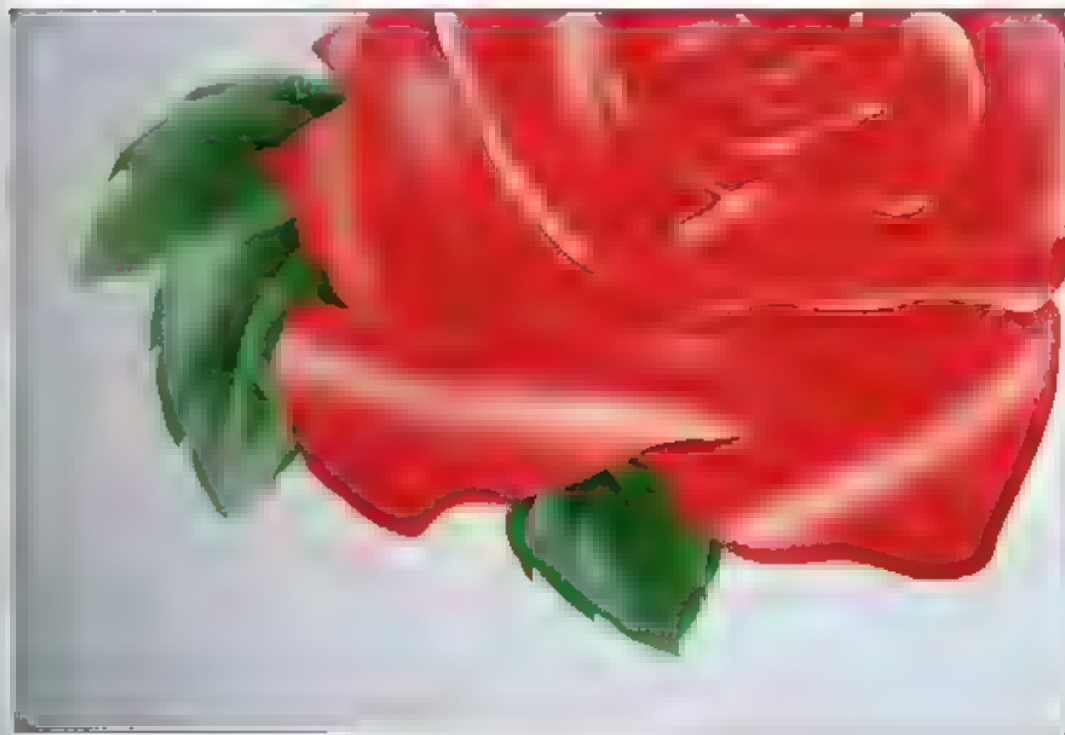
2. Starburst shadows have been added into the image, making the crosshair-like pattern more prominent.



4. The final image shows a bright, glowing crosshair-like pattern in the center, representing the final stage of the halving process.

## HIGHLIGHTING

Here are various techniques for adding light to form and contrast in a drawing to draw out the subject from the background. Highlights give the subject definition and make it stand out. They are an excellent effect to use in many points of visual focus in an image.



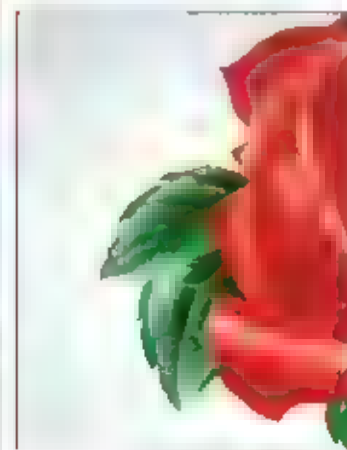
## Using the White of the Board

There are many ways to use the white of the board to create highlights. One way is to use a white pencil or eraser to create highlights on the petals and leaves. Another way is to use a white pencil to create highlights on the petals and leaves. A third way is to use a white pencil to create highlights on the petals and leaves.

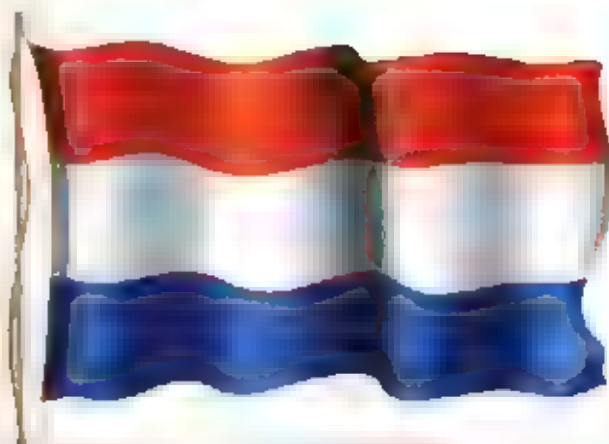


## Using an Art Knife Blade

1. An art knife blade can be used to create highlights on the petals and leaves. The blade is used to create highlights on the petals and leaves. The blade is used to create highlights on the petals and leaves. The blade is used to create highlights on the petals and leaves.



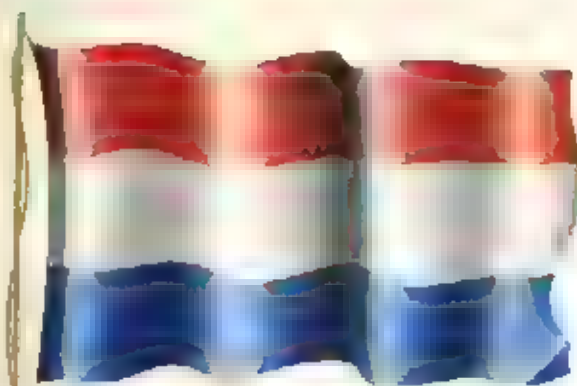
2. By using an art knife blade to create highlights on the petals and leaves, the highlights in the roses are defined as fine white lines.



# Using Opaque White

1 The artwork has been prepared with masking tape and the complete

flap exposed for spraying, as this is intended to increase the contrast by overspraying highlight.

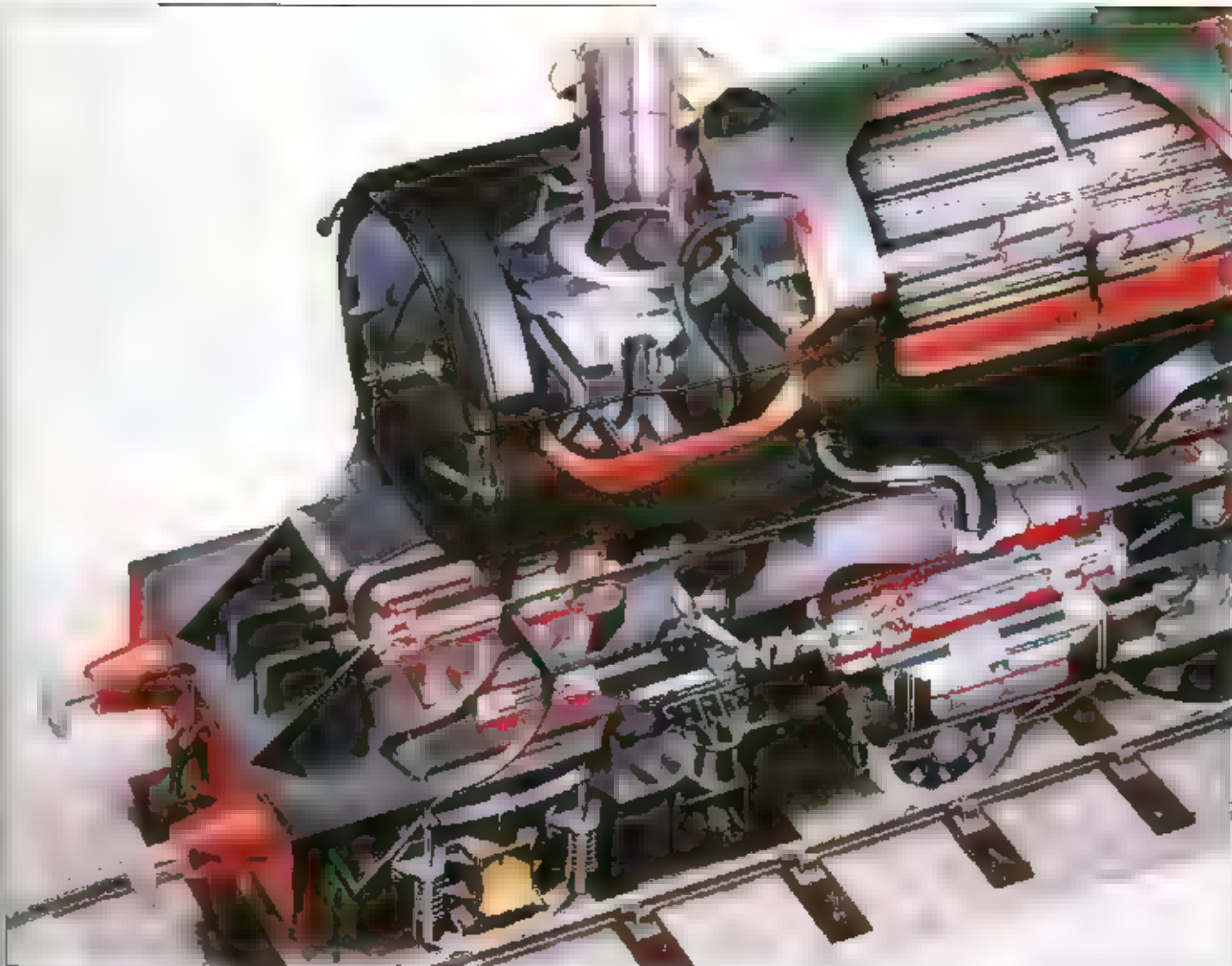


2 The artwork has been prepared with masking tape and the complete flap exposed for spraying, as this is intended to increase the contrast by overspraying highlight.



3 The artwork has been prepared with masking tape and the complete flap exposed for spraying, as this is intended to increase the contrast by overspraying highlight.





Great Western Railway King Class 4-6-0 locomotive *King Edward II* (detail)

James Weston

The locomotive is a very fine model, and the detail is excellent. The paintwork is also very good, and the overall appearance is that of a well-maintained locomotive. The model is a very good example of the King Class locomotives, and it is a pleasure to have such a detailed model.

Highlighting the fine detail of the locomotive, the model is a very good example of the King Class locomotives, and it is a pleasure to have such a detailed model. The locomotive is a very fine model, and the detail is excellent. The paintwork is also very good, and the overall appearance is that of a well-maintained locomotive. The model is a very good example of the King Class locomotives, and it is a pleasure to have such a detailed model.

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## KYNN KING, BACK

When it is not possible to take a photograph of a subject, it is a real condition requiring a new effort to reach a solution. It is usual to start with the text image, to work back the text appropriate areas of the image by comparison with either direct images or slides. To maintain interest and avoid tedium, it is not necessary to use exactly these areas completely. In this technique used at the Centre for Photo-ethnography, the areas can be applied in a patchy or woven form, for example to the background detail of an area of space, to complete or synchronise with the subject.



## Darkening an Obtrusive Background

[illegible]

2. The first of the two is a "covered" or "open" account. In this type of account, the customer is given a credit limit and is allowed to purchase goods and services on credit. The second type is a "closed" or "secured" account. In this type of account, the customer is given a credit limit and is allowed to purchase goods and services on credit, but the account is secured by a collateral asset.



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 233. The two hundred-thirtieth step is to  
 234. The two hundred-thirty-first step is to  
 235. The two hundred-thirty-second step is to  
 236. The two hundred-thirty-third step is to  
 237. The two hundred-thirty-fourth step is to  
 238. The two hundred-thirty-fifth step is to  
 239. The two hundred-thirty-sixth step is to  
 240. The two hundred-thirty-seventh step is to  
 241. The two hundred-thirty-eighth step is to  
 242. The two hundred-thirty-ninth step is to  
 243. The two hundred-fortieth step is to  
 244. The two hundred-forty-first step is to  
 245. The two hundred-forty-second step is to  
 246. The two hundred-forty-third step is to  
 247. The two hundred-forty-fourth step is to  
 248. The two hundred-forty-fifth step is to  
 249. The two hundred-forty-sixth step is to  
 250. The two hundred-forty-seventh step is to  
 251. The two hundred-forty-eighth step is to  
 252. The two hundred-forty-ninth step



#### Weakening Background Tones and Contrast

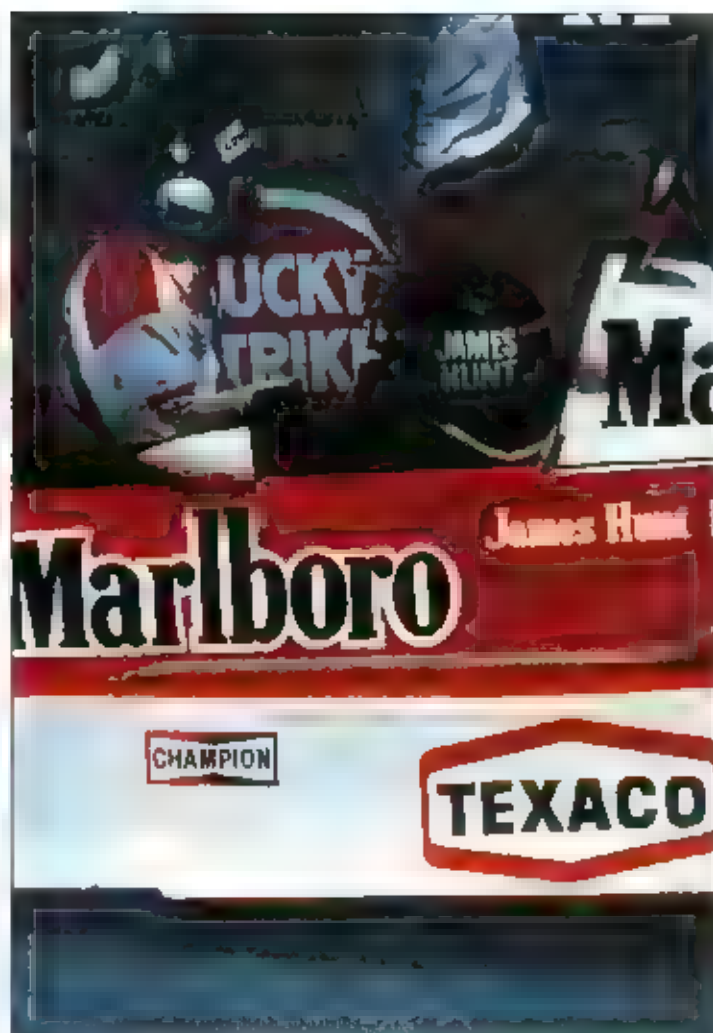
1 This photograph shows a racing car with figures and details in the background. The car appears because of their close proximity to have the same tone as the car and so it is not distinguishable and the background and the car are not clearly separated. The background must be knocked back. The first stage is to dry mount the print into water.



2 Masking film is placed over the whole print area and the sections covering the background and track are cut and removed by spraying.



3 The exposed areas are covered and sprayed with white. This is not so opaque as to destroy the definition but it causes a white effect to light coming over these parts of the image.



4 Once the revised shading clearly separates the background from the principal subject, the masking film is removed. The difference in clarity and emphasis between stage 1 and 4 is completely obvious and it has improved the impact of the picture.

## LETTERING TECHNIQUES

The use of an airbrush in lettering is helpful when flat or graduated colour is required as a backdrop, or when a character or words are to be treated as objects and sprayed to give form. This is often seen in advertising, a typical example being the rendering of words and letters to create the impression that they are made of chrome or some other highly reflective material.



#### Using Self-adhesive Masking Film

1 The sans serif letter 'E' has been drawn on detail paper and transferred to board. A sheet of masking film is applied and the character cut out.



2 The film covering the character is removed and the exposed shape is then sprayed in the required colour and style of finish. Here the paint has been graduated towards a reflected highlight or glow to the lower part.

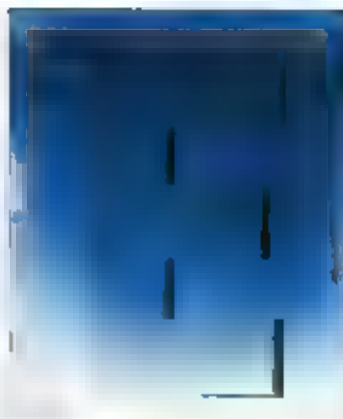


3 The masking film is removed, leaving a strong hard-edged finish.

**Using a Stencil**

1 The same style of letter form is now drawn on stiff cardboard and the shape cut out. In the example shown, the character is composed of straight lines and right angles. Others with intricate curves and acute angles may appear neat and accurate as a stencil image, but any slight imperfections in cutting will be more than noticed in the finished artwork. Precision in cutting is therefore recommended.

3 Her routing the cardboard shows that the character has slightly soft edges as a result of residual copal seeping under the edges of the stencil.



2 The cardboard stencil is held against the beam on which the finished artwork is to appear. The then sprayed with copal.

finished artwork is to appear. The then sprayed with copal.



4 In this example the stencil is held against the beam on which the finished artwork is to appear.

board, giving even softer and more blurred edges to the character.



# Using Dry-transfer Lettering

1 An italic character "E" has been rubbed down on board



2 What will become the background color (in this case, blue) is then sprayed into the character and surrounding area



3 The dry-transfer character is removed by using a craft knife, drafting knife or pick. As much not shown in the illustration is, whenever possible to spray a second color over both the character and existing base color. Further characters may also be done on top of the base color or on the area is re-sprayed and the characters removed, they would appear as the artwork in the original base color. However, extreme care is needed in removing the dry-transfer lettering so as not to damage the sprayed color underneath or, indeed, the surrounding color

# BLACK CADDIS



Judas Priest  
Mark Wilkinson

...and the following repetition of the word "score" is a classic example of how two words can be used randomly with an intention which almost makes them a cliché in the process. I would also note that it is a trend which started in the 1960s and shows no sign of abating as a style. It is very noticeable

to ever sing and the music world. The example above is the name of a group brushed for the tour countries.

The approach has been to create an impression of a highly polished and smooth surface, metallic logo. As a tool, que it allows a user who is a designer, for example, a few exceptions, a bit traditionally excluded, choice of colors has

base and soft-anger, and more to the street and him and war and Argentine use of reflected clouds. The shading, gr. thin, quick, for minor and shading in hard illogically. Of course, and it is never used. If mask, gl. letterforms which are shown with bayonet edges and a bird near mask, curving in again, all for a soft imperfection, well, of a "lump" out and so. The illustration

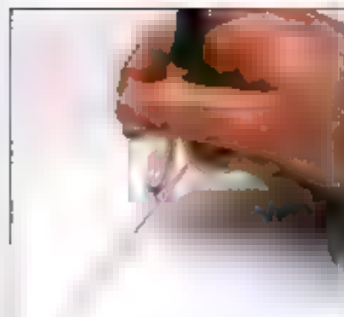
Black Cadillac  
Dave Bull

It is the little homely poster illustration which has been hand-drawn in a style defining the period of the war. The lettering has been exaggerated to make the lettering appear back and forth. Again, as with the body of the caption block has not been used. It is very easy to see a poster block with no grain lines, but the use and the back have been chosen. The top half of the illustration is done in the hand-drawn style, which is the reflection of the very early form of the design with an opaque white background and a black line. The illustration is a very simple, just above the horizon. From the horizon, the power grid is just visible, and the line is drawn in a curve, with the line of the grid of each step of the power grid. The number of power grid is a small number of power grid, and the line is drawn in a curve, with the line of the grid of each step of the power grid. The number of power grid is a small number of power grid, and the line is drawn in a curve, with the line of the grid of each step of the power grid.

The composite illustration from which this title was taken carries the titles "C2 and 10".

## LINE CONTROL

Line control techniques develop, with practice, the skills needed in controlling and handling the airbrush. In application, any of the techniques shown can be used as part of the general process of drawing a finished piece of artwork and, more often, in adding the finishing touches which enhance the overall effect of an illustration.



## Freehand Spraying

This photograph demonstrates a development in the ability to control an airbrush. It shows the freehand use of an airbrush to produce fine straight lines. The main problem encountered when drawing fine lines is the tendency to spray lines which are wavy and shaky. This is because of the jerky, shivering movement of the hand as the airbrush is being used. To produce fine straight lines requires a steady hand.



## Using a Ruler

This photograph shows a line being sprayed with the aid of a ruler. The ruler must be held at an angle or tilted so the line is completed with the correct air pressure. When using this technique, it is always advisable to use a mask to protect the ends of the line. It is always advisable to start and finish the line on the masking film, rather than at the edges of the masked shape, to avoid including any irregularity caused by starting and stopping the line. This is shown in the photograph.



## Using Masking Film

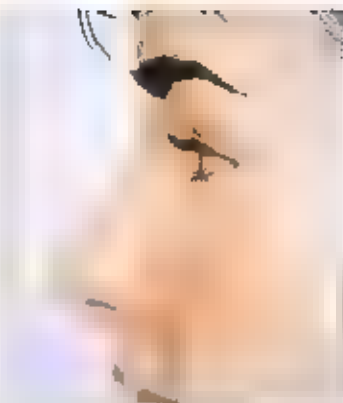
This illustration shows a magazine cover on which the initials 'ST' have been drawn in a stylized, 3D font. The technique involves covering the artwork with masking film and cutting along each letter and the lines between them. However, when the mask is removed, the edges of the letters were not sharp. This is because when the mask was removed, the film was not cut exactly along the edges of the letters.

## LINING-IN

While the major part of an illustration may be completed with an airbrush, it is unlikely to be left without any drawn or hand-painted lining-in. The reason is to establish and delineate detail which could not successfully be applied with the airbrush, regardless of the skill of the illustrator. Lining-in becomes therefore, a very important part of the process of completing an illustration and should be applied with the same care as that given to the airbrushing. So often beginners to airbrushing techniques see lining-in as a boring chore—the final stages in completing their artwork, with the consequence that a good piece of airbrushing

can easily be ruined by rushed and poorly applied hand-work.

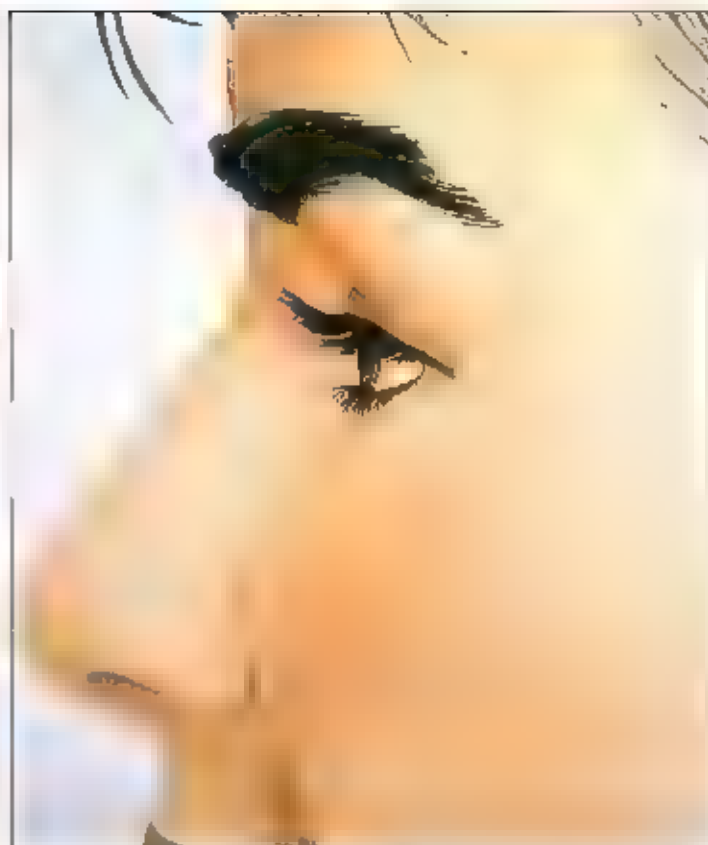
Lining-in may be completed using pencil, paint, clay-on or ink, or a combination of media and with any of the wide range of drawing aids available to illustrators such as ellipse templates or French curves.



1 The basic details and form for a face profile have been sprayed in using various masks and stencils appropriate.



2 Free-hand brushwork is now applied to bring out the finer details such as the eyelashes, the iris, and the eyebrows.



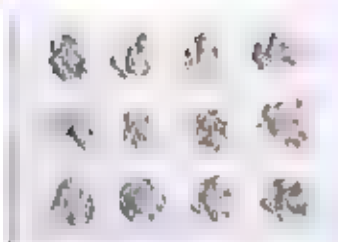
3 Finally, using a shaper or wide pen, highlights have been drawn in to set off the picture.

## LIQUID MASKING

Liquid masking is achieved by using a rubber-based solution which is applied to the surface with a technical pen. The commercially available varieties of liquid masking, also known as masking fluid, are usually tinted to assist in their application. When dry, they leave a water- and paint-repellent film. Colour can be sprayed over and around this rubbery skin formed by the dried masking, and the mask is subsequently peeled or rubbed away, taking care not to damage the surface colour.

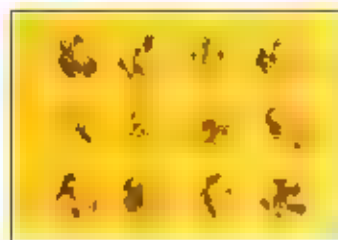
Masking fluid is particularly useful for covering small and intricate details, when more conventional methods of masking become cumbersome and difficult to cut accurately. It can be laid on a clean, unsprayed surface or overlaid on areas previously sprayed. However, on certain surfaces such as rough finished boards and papers, extreme care is needed when removing the masking to avoid surface fibers being damaged. If in doubt, it is advisable to test the fluid on a sample of the paper or board to be used.

On completion of each stage in using masking fluid, the brush used to apply it should be thoroughly cleaned in fresh water, never the same water which is used to mix the colours for spraying or cleaning the brushes. Before proceeding with successive stages of spraying, it is essential that each application of masking fluid is allowed to dry thoroughly.

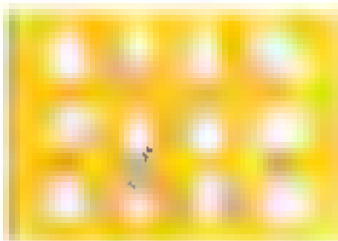


## Dot Pattern Sample

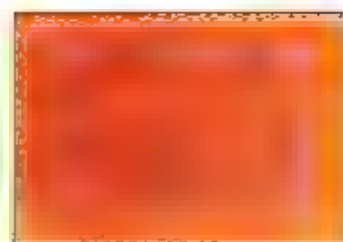
1 In this example, liquid masking is used to create a layered dot pattern in selected colours. In this stage, twelve roughly equal spots of fluid are laid down in three horizontal rows.



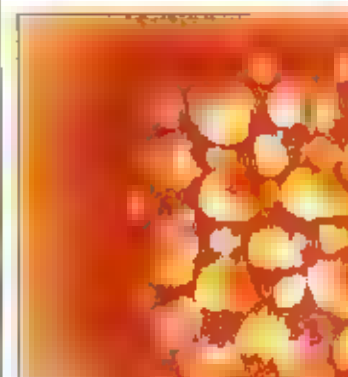
2 Here the first glaze of transparent watercolor has been sprayed over and around the masking fluid.



3 The first twelve spots of masking fluid have been removed by careful rubbing with a finger, leaving the white of the board showing in their place. A second glaze of masking fluid dots is then applied and allowed to dry.



4 A second glaze of color is sprayed over the first, so that color is apparent where it covers the white spaces left by the first application of masking fluid.



7 The final result is visible on the removal of the third layer of masking fluid. Naturally, it is possible to add several layers of masking fluid and an equal number of glazes as desired. It is also possible to apply

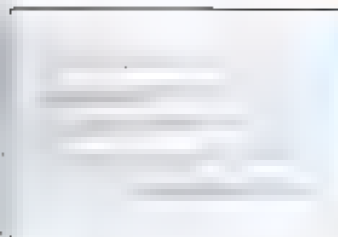


5 The second layer of masking fluid is removed and a third applied. The white areas of the board which are visible are the result of the second layer of masking fluid overlapping the first.

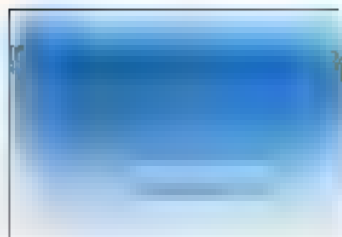
6 A third glaze of color is sprayed over the whole area.

the masking fluid within clearly defined parameters on occasions when self-adhesive masking film or another type of mask is impractical. This is the case when very much more than three are achieved.





**Partial Removal of Liquid Masking**  
1 Five horizontal stripes of masking fluid are applied to the board.



2 The first glaze of transparent watercolor has been sprayed.



3 In this stage the first layer of masking fluid has not been completely removed. It is deliberate and is achieved by rubbing a finger unevenly over the surface. When the required amount of white surface is visible, a second glaze of color is sprayed.



4 The remaining masking fluid is finally removed, with the first glaze showing clearly on the stripes and appearing visually at the front while the second glaze appears at a

backdrop. Again, as in this example, additional layers of both liquid masking fluid and glazes could be added if desired.



#### Using a Ruling Pen

Liquid masking applied with a ruling pen allows for the linear detail to be drawn where the white of the artwork or a previously sprayed base color shows through after spraying. In all cases, the masking fluid must be allowed to dry thoroughly before spraying, just as the sprayed color must also be allowed to dry before removing the fluid.

This particular technique requires extreme care in the removal of the masking fluid because the sprayed color is only destroyed. While it is possible to draw straight lines with a ruling pen,

on a rough-textured board, a hard, fine-grain surface is preferable, as the fibers of the board are less likely to be damaged by "furring" and removal of all of the masking

1 In this example, a series of horizontal lines have been ruled using masking fluid. These are then oversprayed.

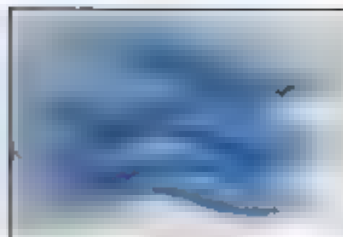
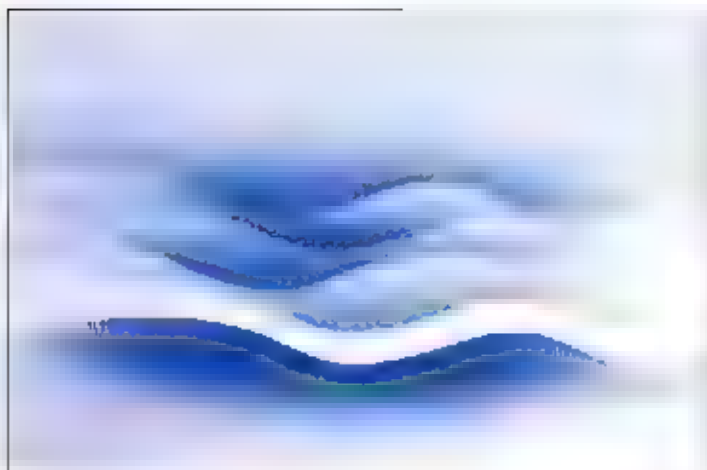


2 When spraying with watercolor or gouache, it is advisable to remove the first masking fluid with the liquid or knife blade as shown here with water, so that when the color is applied it will be able to remove the mask with a wash.

3 If the color is not removed when spraying to prevent a build-up, it then binds the fluid permanently to the surface.

## LOOSE MASKING

This refers to the use of paper and cardboard masks which, depending on use, give a clear but soft delineation to the sprayed edge. Besides giving specific effects, loose masking is a quick method of spraying areas without having to resort to masking film, as long as care is taken with the direction of residual spraying. Reference should also be made to ANGLES OF SPRAYING, CARDBOARD MASKING and THE PAPER MASKING.

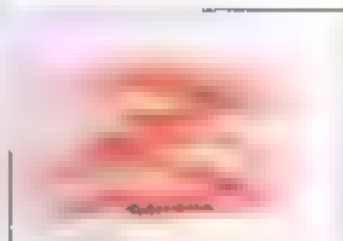


2 In this example the paper masks are held a distance away from the artwork, which allows for more color to spread under the mask. This gives a much softer look to the edges of the artwork, especially in areas where the paper mask is not held flat against the artwork.

### Using Paper Masks

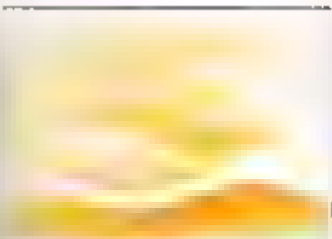
1 Paper masks cut accurately to a pre-determined shape are laid directly on the artwork and sprayed over with a variety of different

shades. Because the paper is directly in contact with the artwork, the edges are fairly well defined, with only a small amount of residue paint seeping underneath.



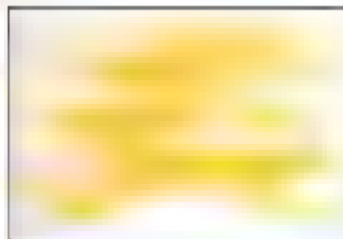
4 The same torn paper masks are used here, but held away from the artwork, giving the softer effect.

3 Here paper masks are used again, but on this occasion the paper is torn rather than cut. The example shows the effect when the mask is laid directly on the artwork. The irregular texture of the torn edge is clearly reproduced.

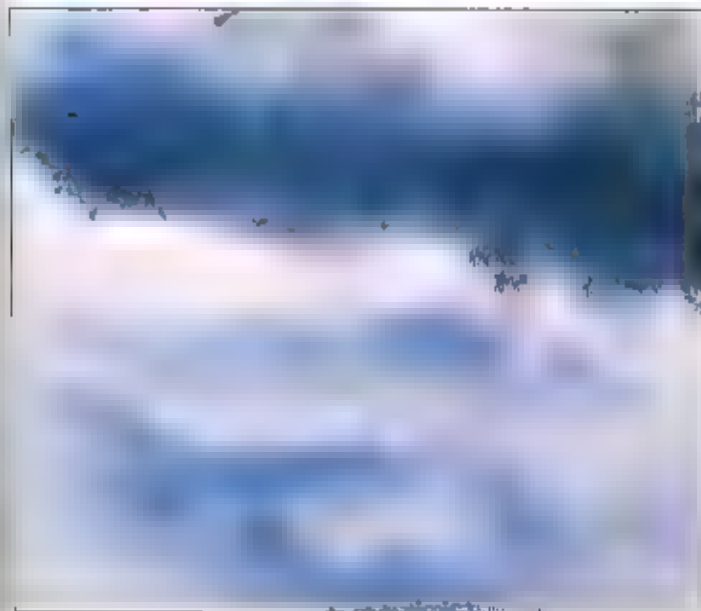


**Join Cardboard**

1. Cut cardboard as shown here gives very much the same effect as cut paper although the possibility of the increased thickness to limit the amount of material we're feeding under the mask.



2 The cut cardboard is used again but held away from the artwork, joining softer edges.



### Using Absorbent Cotton

To enable even more hazy abstract shapes to be sprayed, cotton is taped in place on the artwork and oversprayed. This can be used either to create a new shape or to fill in an existing one. The tape with soft edges are not cut, but are required not to.

spray over the tape as well as the contact or to allow residual spray to encroach and haze the silhouette on the tape to become visible.



## Proof

Simon Hodgson

[illegible]

held slightly away from the surface of the artwork. This gives the impression of representing the glossy, mirrored finish of a painting without appearing too close as if the door can be opened to look through.

When discussing which technique should be used for masking, an on-site masking, or secondary needs to be given to the desired finish and as important, the materials and a face mask to be rendered in the plan of the illustration. Yet again pre-planning is vital.

## OVERSPRAYING

Keen observation of the range of values in color, light, and shade will make it apparent that the base color of an object is rarely seen by itself. The reflective nature of light means that other colors will be included, usually from objects or colors immediately surrounding the principal object. Additionally, the composition of some subjects means that the colors and shades cannot be separated and sprayed in isolation from each other. This then requires the application of overspraying to model shape and form. The use of overspraying when airbrushing is similar to overpainting and gives depth and body to a subject.

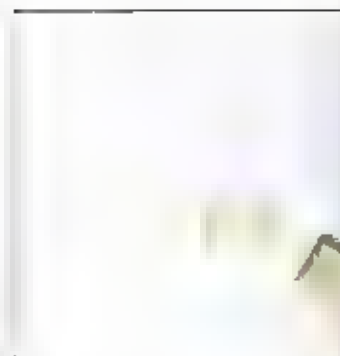


1 The preliminary drawing of a clenched fist has been drawn in pencil on design paper with the bones

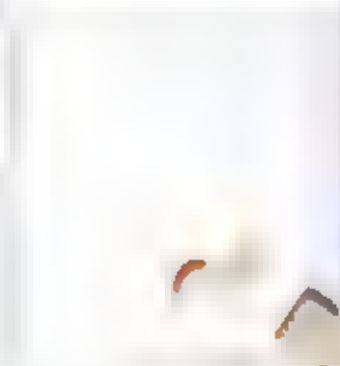
values shaded in. These will be a useful reference when spraying the image.



2 Once the drawing has been corrected, the outlines are transferred in a dark ink.

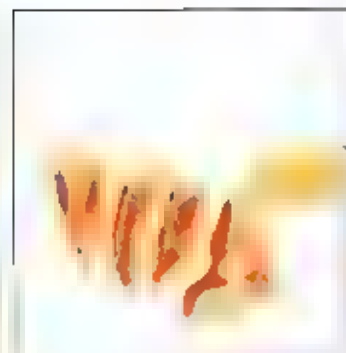
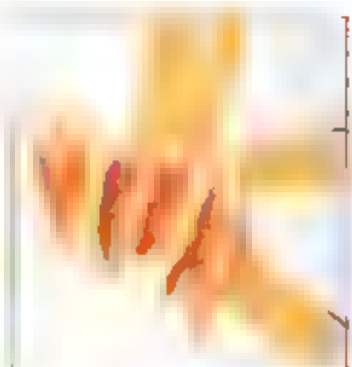
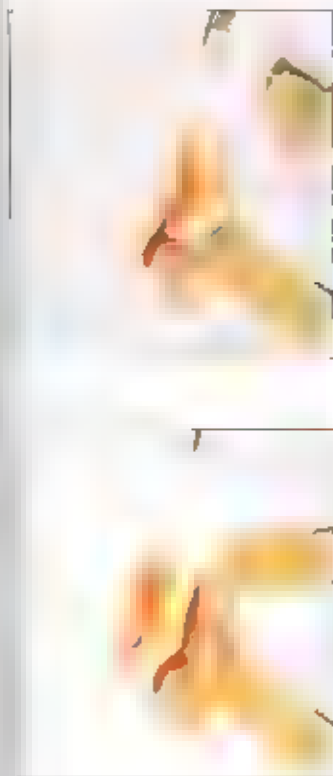


3 The drawing is oversprayed with a very light color to produce an initial stage of the fist so that finger joints are cut in the film. Starting with the thumb, the mask is removed and edged; the spraying is carried out with a medium space using an appropriate color or greyscale.



4 Darker shades are added over the medium ones, thus increasing the apparent depth of the subject.

6-8 The spraying sequence now proceeds with each index finger. It will have been marked with the airbrush using the medium shades. At this time the sequence marks on the arm are changed to allow for accurate repositioning. In a sense, such as this good control of the finish is essential due to some areas requiring a more aged finish where one finger is touching its neighbor. But where a finger runs the back of the hand is not a finished (unique) required. The only that contrast must also be carefully controlled, as this is completely of the modeling of the form. There is no evidence of the sequence of work.

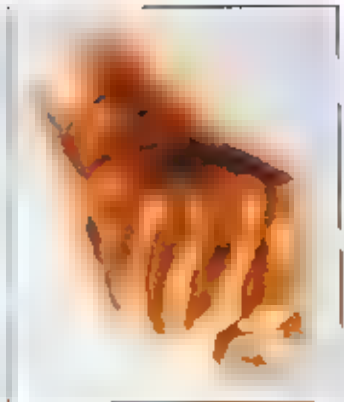


9-12 The process is repeated re-using the previously begun work, but this time each finger is over-sprayed with the dark shade.





13 When both total values have been sprayed onto the fingers, all separately hinged masks are completely removed from the artwork. The medium shade is then sprayed, used to model the back of the hand and the wrist.



15 The darkest shade is added primarily over the shadow area on the back of the hand.



14 A medium-dark shade is now oversprayed to increase contrast and to indicate natural shadow.



16 Finally, a very light shade, which is almost pure white, is oversprayed to add highlights to the fingers and knuckles.



17 The artwork is completed on the removal of the final piece of masking film. Depending on the size and purpose of the illustration, additional detail could be added with pencil and brush.

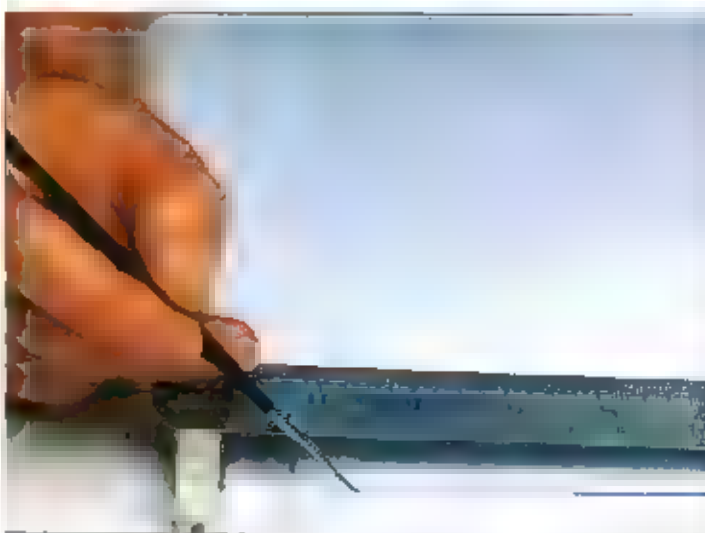
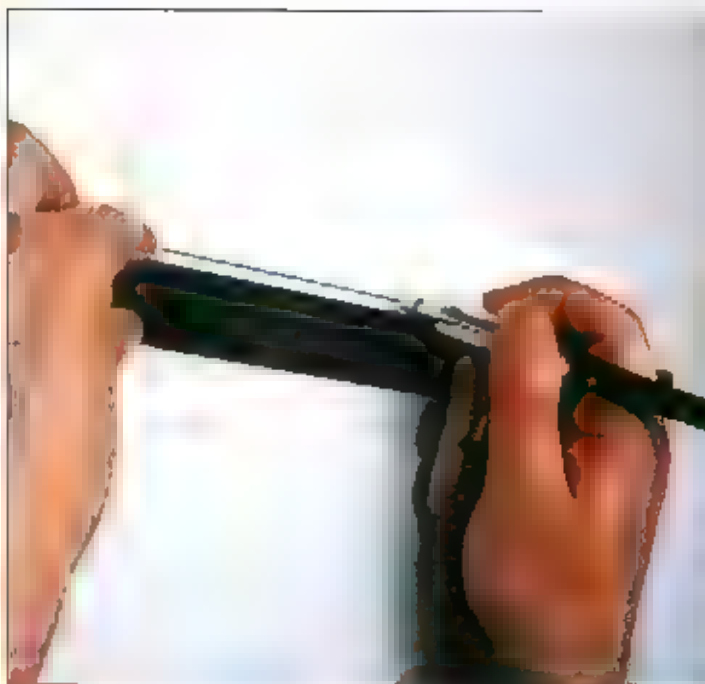
## RULING

together with LINE CONTROL and LENSING-IN, drawing straight lines with a ruler is an essential technique for adding details and finish to an airbrushed illustration. It must never be rushed, as it could make or mar the finished work.



### Using a Ruling Plan

The traditional and indispensable ruling device is shown being used against the T-square. When using a ruling pen, it must be taken to maintain the 45° angle throughout the length of the line. It is also important to hold the pen at a right angle to the square or ruler to prevent a point or ink from floating underneath the edge.

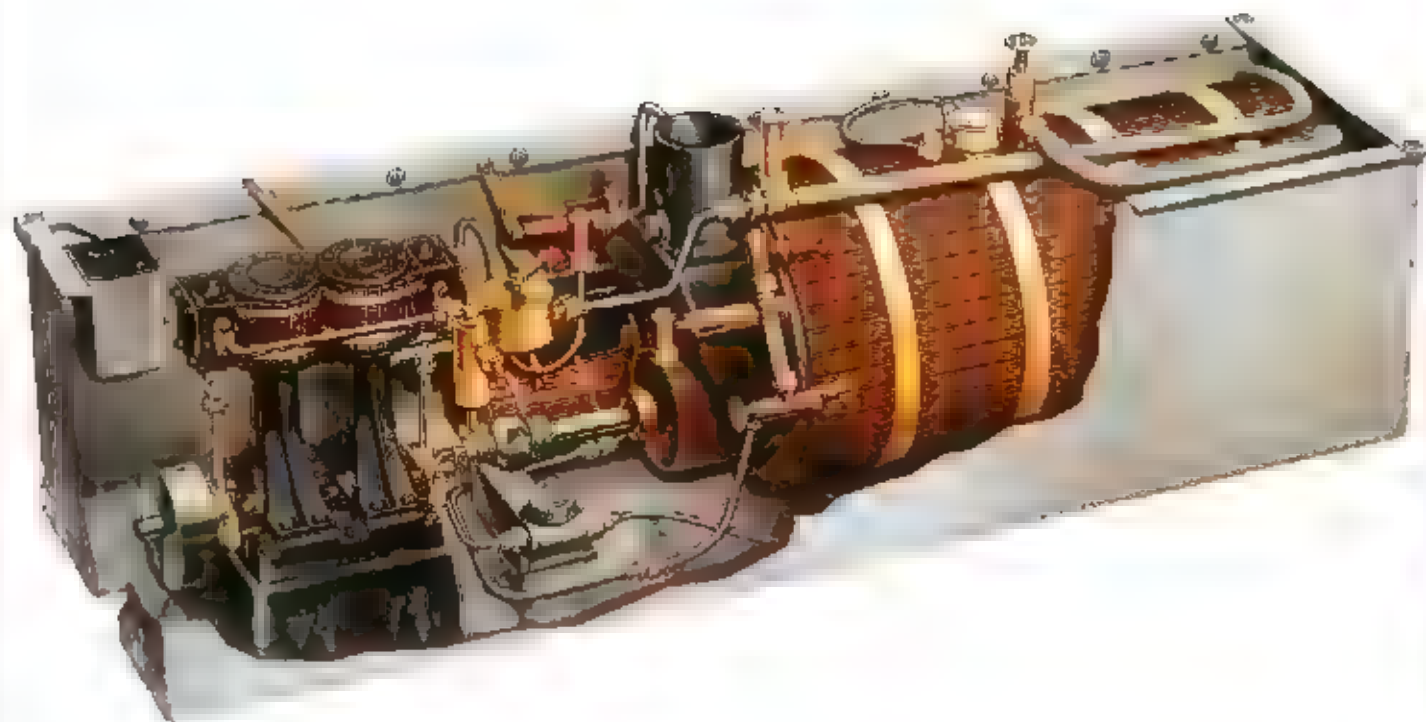


### Using the Airbrush

[illegible]

### using a Paintbrush

A photograph shows the illustrator drawing a line over the wall, visualizing a ruler to ens. the straightness. This technique requires steady pressure to maintain even thickness along the entire length of the line.



**A self-contained model steam power plant**  
**Peter Jarvis**

This three-quarter view perspective illustration was commissioned by Angus Banks Ltd for the book *SS Great Britain: The Model Ship* and it clearly demonstrates the application of ruling and drawing with a ruling pen and a fine sable brush. The technique adopted followed conventional methods for the preparation of full colour airbrushed artwork for reproduction as a magazine item.

However, the subject is made up of many small components which could not be airbrushed and which

required extensive hand-detailed work. In addition it was decided to present the subject in a new, unusual style which would enhance the various components and the materials from which they were made, but which would also add contrast between the different surfaces and the way they had been machined or finished. To create some of this contrast, a ruling pen was used.

The aluminium casing which contains the boiler, pumps and twin cylinder steam engine has straight lines on those edges which would show a shadow. Edges facing the light source have been highlighted with a bright line of chrome much

lighter than the base colour. The detail highlights and contrast on the rivets and other appurtenances was achieved by hand. These are rendered in two shades of red to show the thickness of the aluminium with the leading edge picked out in a very light grey, while the shadow edge has been picked out with a dark grey. The red castings forming part of the boiler fittings were first sprayed semi-opaque white highlights and shadow lines were applied after wards by hand. The bases of the boiler have a sprayed base colour with shadows and highlights subsequently added. This approach has been adopted throughout the illustration.

An ambitious illustrator such as this, composed as it is of so many small details, must also undertake use of hand-rendered ruling and airbrushing. As much, if not more patience is needed at this stage of an illustration to ensure that the final result is compatible with the quality of the other shading. Inexperienced artists should be wary of rushing the work.

# SCRATCHING BACK

The point of a new on an art knife blade is an effective and indispensable tool for adding fine highlights and texture to illustrations; this kind of detail sharpens the finish of an illustration and adds crispness to it. To achieve the effect, the surface of the artwork is scratched back to expose the white of the board.



## Thin Highlights

The illustration of part of a painter shows the use of a fine blade to scratch back the white highlights in the bright and curved areas. Although not very wide or deep, the highlights are enough to add the quality of the finished illustration.



## Sprayed Highlights

In this artwork, an aerosol spray is used to create highlights. A scratching board is used to erode the medium for a rough surface and create a sprayed highlight which adds depth and texture to the work.



## Thick Highlights

In this example, highlights in the eyes, eyebrows and lines surrounding the eyes have been finely scratched out, giving emphasis to these features.

As mentioned, giving emphasis to these features

## SPATTERING

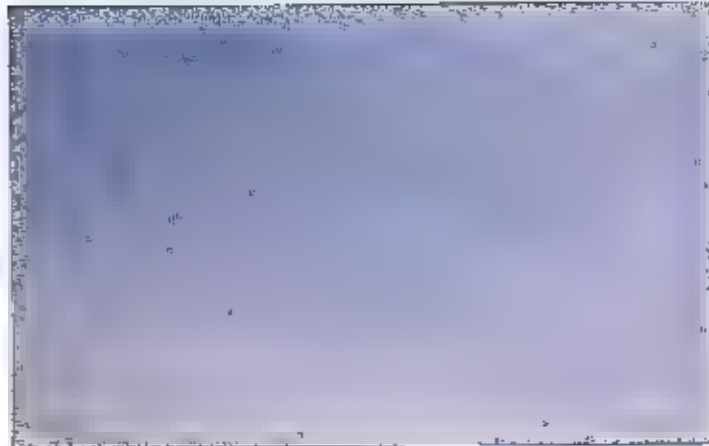
Spattering can be achieved either by loosening the air pressure allowed through the airbrush, or by fitting a splatter cap to the end of the usual nozzle. Additional control is achieved by varying the distance the airbrush is held away from the artwork and adjusting the combined amount of air and medium which is allowed through the airbrush. The effect is of a stippled or dotted finish with varying densities and sizes of dots.

Because a splatter cap can create quite a crude finish, practice is required before attempting to use this technique on serious illustration work. However, the use of a splatter cap does have practical applications. It can be used to represent the ground and thereby add interest and contrast, especially when the principal subjects of a polished nature. It can also be used to represent atmospheric effects or the surface of a section in a cutaway diagram. It can be used to create texture, and the finish achieved does not preclude its use in adding in a controlled manner for a tint and tone to a shape or object.

Some practical demonstrations are included here where spattering can be used to create some quite specific textures.



1 The above demonstration of spattering can be achieved by using a splatter cap fitted to the end of the nozzle. It is achieved by controlling the distance the airbrush is held away from the artwork and the amount of air and medium allowed through the splatter cap as an accessory.



2 The example shows a fine stippled effect which has been achieved from a standard nozzle by using very light air pressure.



### Galaxy Effect

Using a solid black or blue color as base to the artwork, a dense white or oversprayed through a smaller cap

to give an impression of a galaxy of stars. This could be further worked on by applying hand-painted or sprayed "starbursts". The base

color and the initial stars could also be sprayed with a variety of shades and colors.

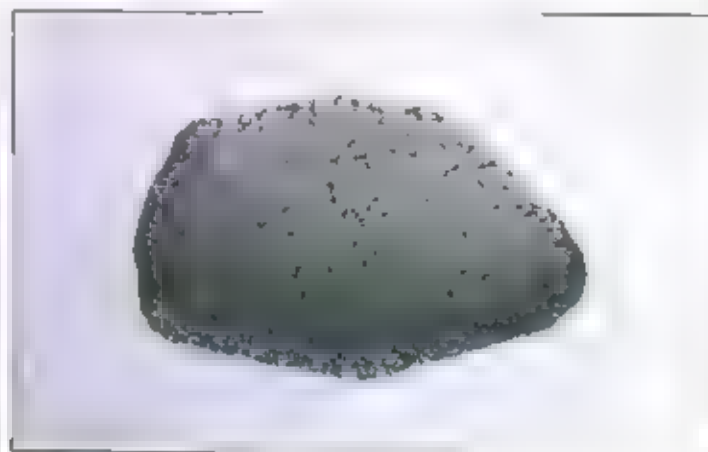


## Stone Finish

1	Apply a thin coat of spatter to the surface.
2	Allow the spatter to dry.
3	Apply a second coat of spatter.
4	Allow the spatter to dry.
5	Apply a third coat of spatter.
6	Allow the spatter to dry.
7	Apply a fourth coat of spatter.
8	Allow the spatter to dry.
9	Apply a fifth coat of spatter.
10	Allow the spatter to dry.



3 Apply a thin coat of spatter to the surface.



4 Apply a second coat of spatter to the surface.

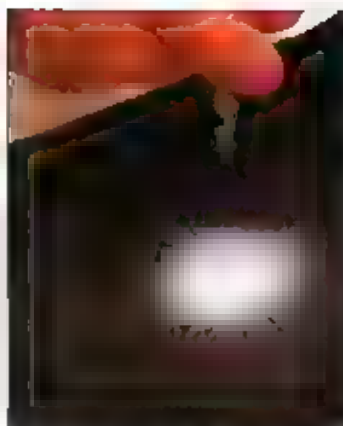
Increase the variety of shades and sizes of spatter.



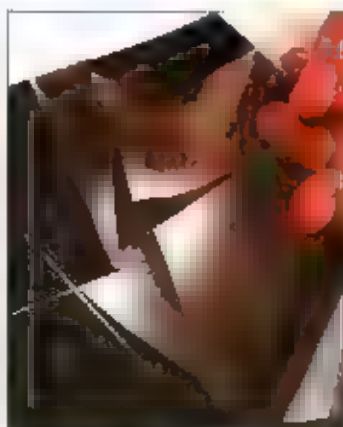
## STARBURSTS

This is a particularly effective airbrush technique which can be used in many different ways. Besides the obvious use in rendering realistic impressions of stars in a night sky, or descriptive effects in fantasy or science-fictionous colours, starbursts are also applicable in showing diffused reflections or dazzling highlights on the headlights of vehicles seen photographed with a long exposure.

The following sequence demonstrates the most effective method of applying starbursts, using an accurate mask. The reason is twofold, in that the artwork is always clearly visible, allowing for accurate positioning and that a certain amount of control over it will keep under the mask, softening the edges slightly. For adhesive masking film can be used, but this will give a very sharp-edged finish which, unless very carefully done, can be starved a subtly applied, well-blended effect.



1 This stage shows the artwork mask with a simple cross cut into it. The length of the arms of the cross are about 1 inch longer than required to allow even the slightest hint of an edge appearing after spraying. The white is sprayed through the mask concentrating on the center of the cross and allowing the rest of the spray to fall on each side.



2 The mask is shown being applied over the painting. The white is then sprayed through the mask, concentrating on the center of the cross.



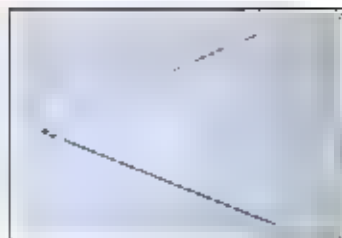
3 The finished example. If required, the white can be sprayed on the mask, which is held in place by taping it on the desired effect.



4 In the next stage, the white is sprayed on the mask, which is held in place by taping it on the desired effect. The white is then sprayed through the mask, concentrating on the center of the cross.

# STENCILS

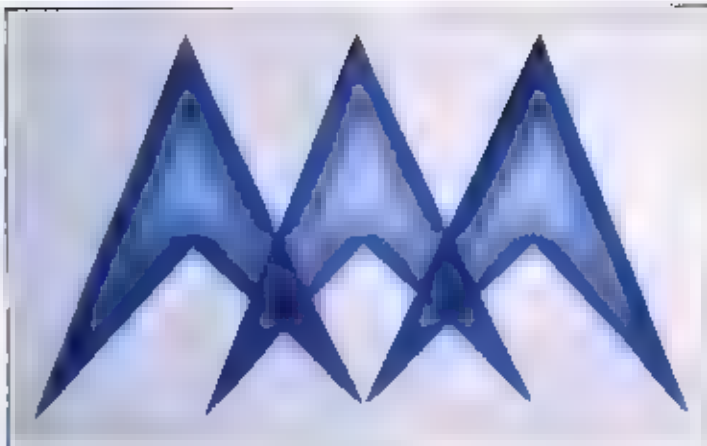
When it is necessary to produce repeat pattern artwork, the stencil becomes a useful aid, although excessive use of a paper stencil will soon give distorted images because of the effect the paint will have in wrinkling the paper. Thick cardboard is a more suitable material for stencils, but it can be difficult to cut intricate shapes. The thickness of the cardboard may also cause a narrow unsprayed edge around a shape if the airbrush is held at an angle while spraying. Natural or man-made objects can also be used as stencils, giving an infinite number of patterns.



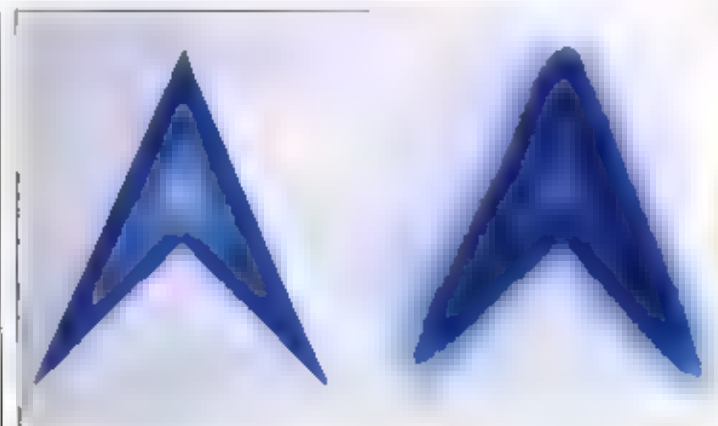
1 A simple shape has been cut into 250 cardboard for use as a stencil.



2 Here the spraying is restricted to the edges of the stencil, with red color being applied to the cards.



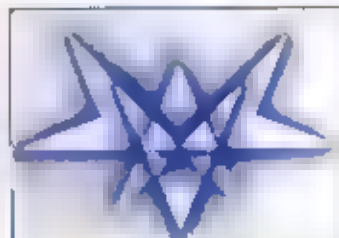
4 A simple symmetrical pattern obtained by overlaying the same stencil.



3 The finished result shows the effect when the stencil is held flat on the surface while that on the right shows the effect when the stencil is held above the surface. Notice that when it is held above the surface the red dust can encroaches over a wider area both outside and into the stencil's interior.



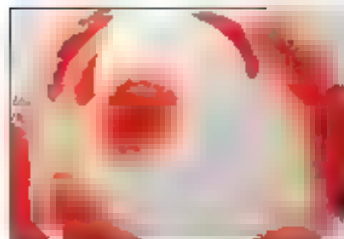
5 This example is the reverse in that the stencil now consists of the shape being fully cut from the cardboard. This has been laid on the board and the color sprayed around it. When using a flimsy stencil such as paper, it is possible to move it in place, but care is required to prevent the spray from producing a distorted silhouette shape of whatever is held up to the stencil board.



6 Using the same stencil as in step 4, a multiple overlapping pattern has been achieved.

## TAPE MASKING

People who do drafting work use a transparent self-adhesive masking tape called invisible mask tape, which is matte-finished. It is suitable for drawing or tracing on and, therefore, ideal for repairing drawings, especially when these are prepared on drafting film. This tape is also useful in stenciling when, as in the example illustrated here, small areas have been exposed out of sequence. It may be cut and used in the same way as masking film. It is also noted that the tape has a low-tack adhesive which does no damage to the artwork.



1 Referring to the example described and illustrated under the heading film masking, the places where the tape was used to hold the mask in position are shown. The tape was used to hold the mask in position, and the rose, a piece of film was used to hold the mask in position. The tape was used to hold the mask in position, and the rose, a piece of film was used to hold the mask in position.



2 With the tape in place, the pattern was applied to the drawing, and the rose was stenciled.



3 After the mask is removed, the transparent tape was lifted off and the stenciling sequence continued.



## TEMPLATES

Useful aids in airbrushing are the many and various die-cut templates used in drawing illustrations. These are used in much the same ways as hand-drawn templates. The examples which follow show simple applications for ellipse, circle and French curve templates.

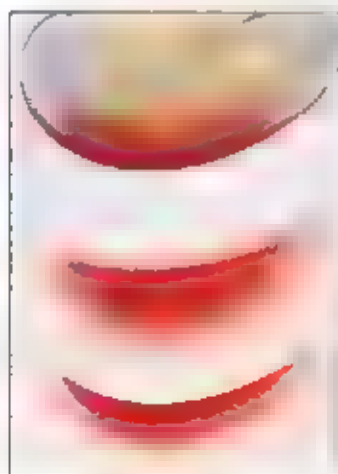
There are two things which need particular attention if you are using plastic templates in airbrushing. One is that the sprayed color dries slowly on the plastic so you should make sure the underside of the template is clean and all excess color has been wiped away if you are using it more than once. Also, if the template consists of multiple shapes, use tape to mask off the areas surrounding those being sprayed; otherwise, residual color may fall through and create shadowy silhouettes where color is not wanted.



1 This is a simple demonstration of the use of a typical ellipse template. The spraying is directed through the required size and angle of the ellipse either as full color or as a cross-hatched color. The uppermost ellipse has been sprayed holding the template at a distance away from the artwork, while on the lower one the template has been laid on the surface of the artwork.



2 A circle template has been used here, holding it away from and laying it on the artwork, as in the illustration above.



3 This shows a French curve being used in the same way as the circle template. French curves, as will any template, needs special care to prevent the color from being sprayed around those parts of the artwork which are not wanted.

## TORN PAPER MASKING

If the exterior silhouette being prepared is not confined by predetermined dimensions, torn paper can be an effective form of marking. To illustrate one application, I might be required to create a impression of the sea and sea paper prepared in a variety of wave shapes could be used to define the waves over a pre-painted base color. By slightly moving the torn paper horizontally to the left or right after the spray, the waves will take on a quite convincing appearance, albeit in a stylized manner.

Reference should also be made to  
 (1) AIR 1100-10-1 (1983) (1983) (1983)  
 (2) AIR 1100-10-1 (1983) (1983) (1983)

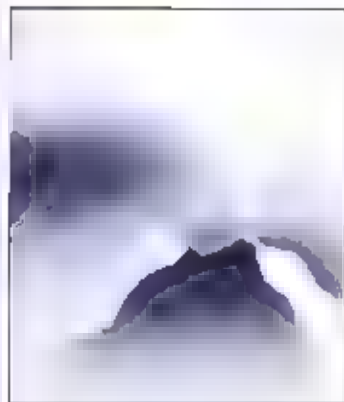
### Special Effects

Y. In this example, a special case of a simple illustration of receiving mountains is shown. And in the first stage a unit paper or thin cardboard stock is prepared. The border of the illustration is printed with a casting film, which will remain in



Place until the fine stage. Note that 4 or has been removed from the paper mask is the shape of the mountain, and not the surrounding area. Because the first shape will be in the foreground, the mask is positioned in the lower part of the artwork.

2 The first topic that is popular is  
the importance of the mountain  
in the history of the city. The mountain  
is a symbol of the city's history and  
culture. The mountain is a source of  
inspiration for the city's people. The  
mountain is a source of pride for the  
city's people. The mountain is a source  
of strength for the city's people. The  
mountain is a source of hope for the  
city's people. The mountain is a source  
of love for the city's people. The  
mountain is a source of life for the  
city's people. The mountain is a source  
of death for the city's people. The  
mountain is a source of everything for  
the city's people.



**3** A new shade is torn into the paper, indicated on the artwork and sprayed with a slightly loss in consistency.



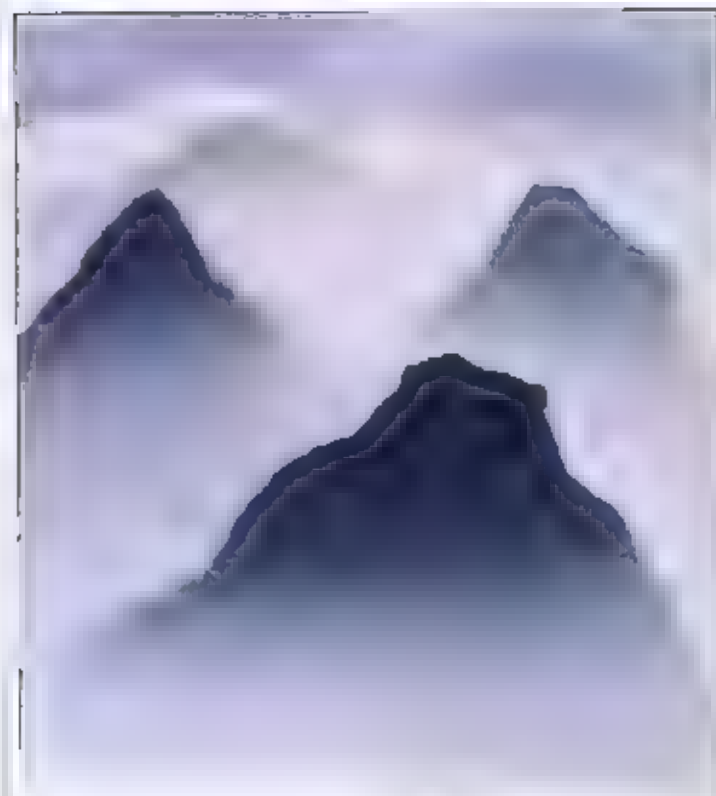
4. The process is continued as the impression of dog is made. It will be noted that snakes already Arrived are not imprinted by a snake. This means that the neural value of toxic snakes represented by 100 units is found to be one. Therefore, we have a neural value of 100 units, which is saturated. This is the end of the process.



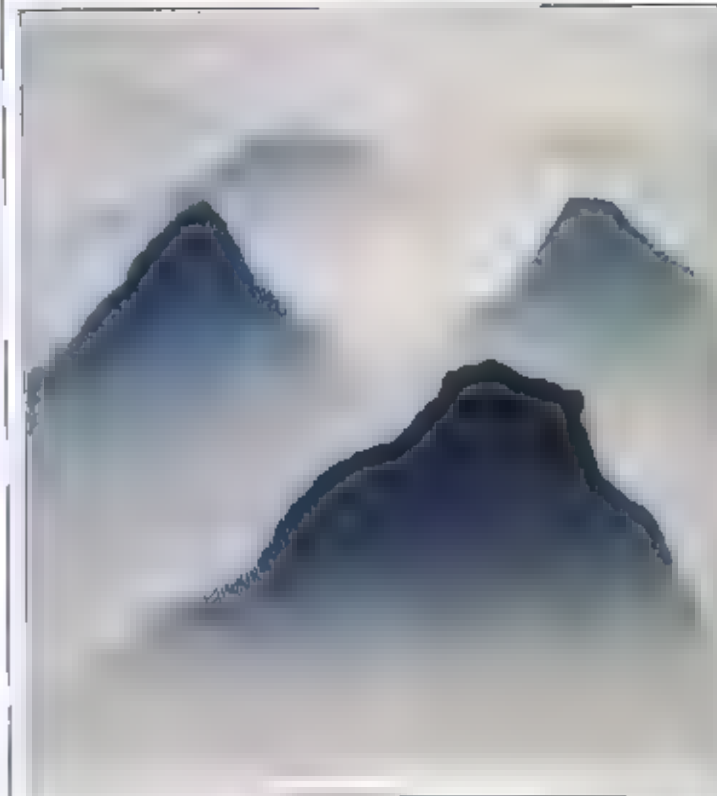
5 Again the shape is changed spread more lightly covering less area than before



7 When the very pale shapes in the background have been completed the transparency is placed on the very pale background. This is the final shade of color. The mountain range is the only one to be placed on the top of the artwork to a contrast with the mountain range.



6 Again the shape is changed spread more lightly covering less area than before



8 The mountain range is placed on the very pale background. This is the final shade of color. The mountain range is the only one to be placed on the top of the artwork to a contrast with the mountain range.

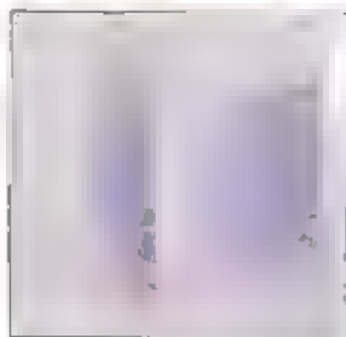
## TRANSPARENCY

This technique refers to objects which are transparent to a greater or lesser extent. It requires a far greater control in the application of sprayed color than does the representation of solid objects, because it is easy to overspray and in so doing to knock back the transparent effect in which case the process has to start again. The example used here to illustrate transparency is a simple cube, and no allowances are made to include reflected colors or highlights which might be expected from surrounding objects.

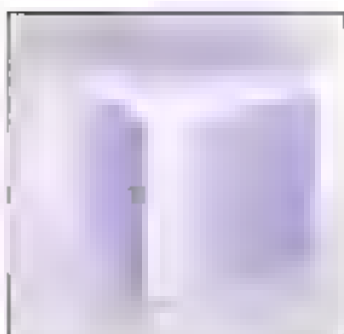
In advertising illustration, there are many examples of objects airbrushed in this way which would not, in reality, be transparent. Many of these illustrations come from the imagination of the illustrator and do seem to achieve a particular effect and often for impact. To reach this standard requires skill, practice and an understanding of the changes in light and reflection as seen through a transparent object. GHOSTING is very much related to this technique, and the two may be used together in order to gain a better understanding of the application of the spray-on effects.



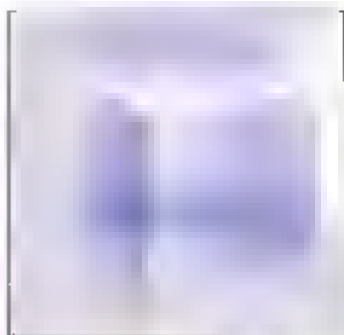
1 The drawing of a cube shows all surfaces has been masked and covered with masking film. The naturally visible left-hand face in the foreground is exposed and sprayed with a graduated shade of color running from the bottom edge to the furthest away face as observed.



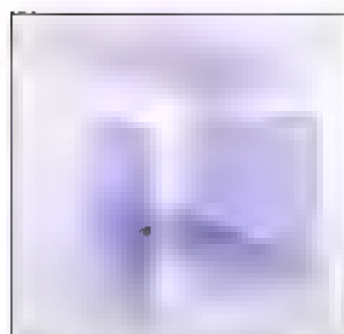
2 The right-hand face is now airbrushed, again with a graduated shade, but from the extreme right-hand edge toward the receding edge.



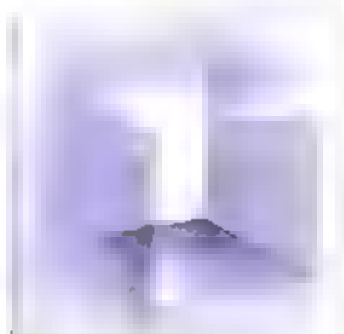
3 The top horizontal plane is sprayed next, with the shading running from left to right.



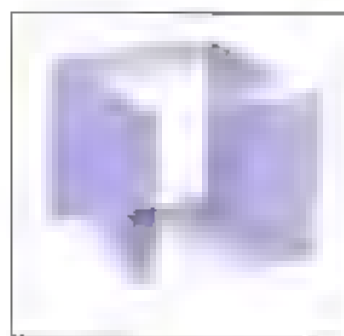
4 The inner face of the cube lying on a receding plane is sprayed next, with the depth of shading graduating from left to right and bottom to top for the observer toward the receding edge corner.



5 The vertical edge represents the corner of the cube. The vertical edge from the observer's position, and sprayed with a vertical shade running from left to right.



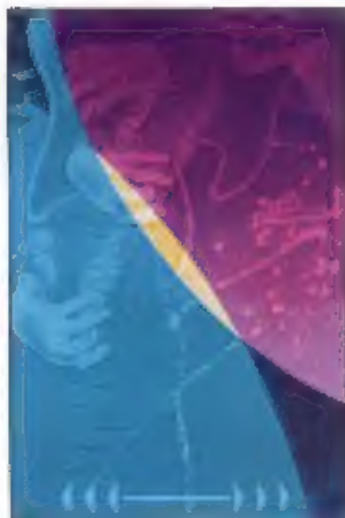
6 The entire inner face of the cube is now covered with a diagonal gradient shade.



7 Finally, all masking film is removed.

**Finger Style****Brian Robson**

Some consider the airbrush to be a tool only for technical illustration, which has no place in any other type of graphic imagery. Such viewpoints misunderstand the reason for using any aid in the production of an illustration. If a desired effect or finish is best obtained with an airbrush, or any other tool, then would it not be appropriate and sensible to use it? The illustration reproduced here is a case in point, for it might at first appear that spraying would not be the best means of arriving at the finished result. Nevertheless, an airbrush has been used, showing the illustrator to have complete control over the airbrush and the density of color applied to each part of the illustration. It relies very much on the technique of rendering transparency with *excess* *work* at the top left and bottom right contrasting well with the flat tones of the two circle segments.

**BACS****John Brettoner**

As mentioned in the introduction to this technique, far greater control is required in the spraying of transparent objects than solid ones. Especially if other objects are to be shown behind. Control is required both of the amount of color applied and the density of the shades, each being dependent on the degree of transparency of the object. Careful planning is also required to ensure that any oversprayed color is applied in the correct sequence, so that there is no doubt as to which

surfaces or objects are transparent, and which are in front or behind. The technique applied to spraying transparent objects cannot be derived from a single example of a finished illustration. Because of this, preparatory color notes should be made before starting on a piece of finished artwork and the sequence of spraying worked out beforehand.

The example reproduced here shows a very simple, but highly effective, rendering of eight glass balls centered around a larger one carrying the BACS logo, all set against an opaque background with a subtle reflection of part of the

grouping. The quality of transparency has been achieved by *overlapping* the ball immediately behind the one in front with a soft shade of the latter's base color. This is particularly obvious with the black-and-white ball lying behind the gold-colored BACS ball. It will be noted that the ball at the back has a *high-key* which has been sprayed with a lower-key shade of the gold, rather than the white applied to its neighbors.



## VIGNETTING

A vignette is a drawing which is not contained by any clearly defined borders or edges, but either fades into the background or stands on its own. In airbrush illustration work, vignetting is used to achieve the same result by graduating the colors that make up the background. Sometimes it can be used to fade out the object itself, especially if one side or area is considered unimportant to the central theme of the illustration.



## Fading In a Background

1 An illustration of an apple has been drawn and, to protect it from the background spraying, has been covered with masking film. The edges of the square which will contain the apple and its background have also been masked.



2 The spraying begins with a gradual build-up of a graduated shade, from the outside edges of the box inward.



3 The shade is increased until the required depth is reached.

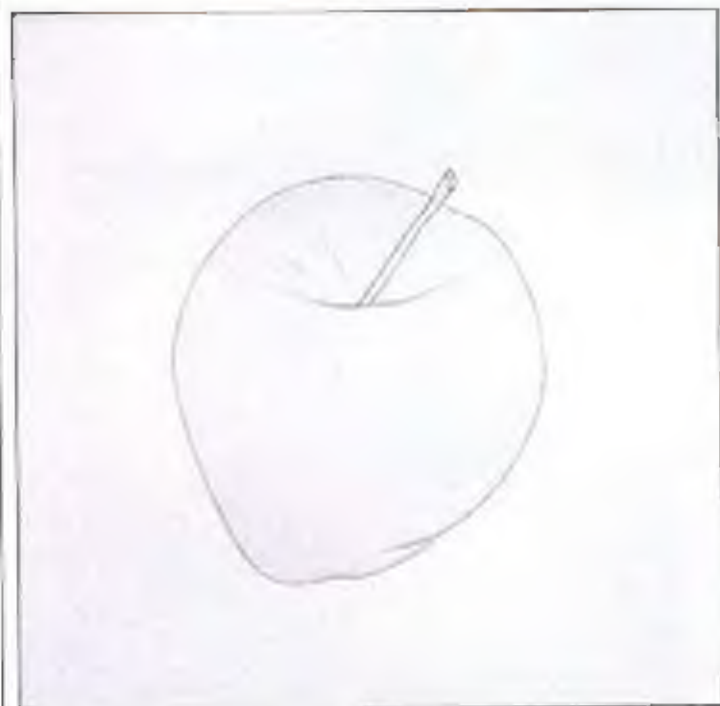


4 When the vignette is completed, the mask protecting the edges of the box is removed.



### Fading Out a Background

1 In this demonstration a level background is required, but graduated from the object outward. Here the apple has been protected with masking film.



2 Spraying has started from just within the edges of the mask and an even shade is built up all around the apple.



3 The depth of color is increased to harden the contour of the form.



4 When enough color has been sprayed, the mask on the apple is removed, showing the vignetted background outlining the shape and fading gradually outward.

## WINDOW HIGHLIGHTS

By its very name, this technique refers to the reflection, usually on a curved surface, of a window. It is visible under a range of light conditions, but as a highlight is more pronounced when the light source coming through the window is particularly strong. As a technique, this is useful for enhancing the appearance of a highly polished, but opaque object in a stylized manner, especially when no other reference source is available. It is an extremely popular device and can be seen in airbrushed illustrations from any period. When taken further by the inclusion of surrounding detail, both on and near the window, the effect can be one of super-realism, a style developed with great expertise by many of the Japanese exponents of the airbrush.

Though effective, window highlights should be used with caution, and they are not applicable to all surfaces or subjects. For example, it would be inappropriate to use a window highlight on the hubcaps of a modern 18-wheeler, regardless of how polished and glossy the metal; the chances of such a vehicle being housed indoors so that it would accurately reflect patches of light passing through a window would be very slim.



1 In this demonstration the window shape has been carefully cut out of acetate sheet and placed in the required position over a pre-sprayed base color. Opaque white is then sprayed through the mask.



2 This photograph demonstrates the effect with the mask pulled back. Notice that the shape of the stylized window is curved. When used on a curved object, the curves of the window should conform to those of the object. It is, of course, acceptable to cut the mask with allowances for the distortion which sometimes becomes apparent through perspective, but this will require close observation of a real example. By using an acetate mask, the resulting effect will be to give a soft edge to the highlight. The degree of softness will be determined by the distance the mask is held away from the artwork. Of course, a hard edge could be obtained by using self-adhesive masking film.